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Migrants and Markets

Perspectives from Economics and the Other Social Sciences

HOLGER KOLB & HENRIK EGBERT (EDS.)



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Introduction

MIGRANTS AND MARKETS: PERSPECTIVES FROM ECONOMICS AND THE OTHER SOCIAL SCIENCES

Holger Kolb and Henrik Egbert

Both the title of this book and the introduction suggest an idea to which the authors in this volume and many scientific authors, but not everyone from the academic discipline of economics, would fully subscribe. It implies that 'social sciences' is an umbrella term that constitutes a superset of disciplines, of which economics in turn is one. However, there is also an alternative interpretation of economics that the editors and authors in this book view rather critically and which recently has been gaining supporters among economists. In this interpretation there is a sharp division between economics and the social sciences that classifies both disciplines as something rather different. A further analysis of the relationship between economics and the other social sciences, with a special emphasis in the area of migration studies, was the main aim of the conference at which most of the papers in this volume were presented.[1]

The assumed primary difference between both perspectives is of a methodological nature. Economists who subscribe to the interpretation of economics as being something different from the other social sciences consider their discipline's methodology to be scientifically accurate; contrary to many social sciences such as sociology, political science or anthropology, economics is not limited to providing only anecdotal evidence, but possesses the capacity to provide 'hard facts' and precise analyses. In this approach, economics resembles the natural sciences and should be understood rather as a kind of 'economic meteorology': based on (often very particular) assumptions, the models allow medium-range predictions of future economic developments to be made.

According to this perspective, economics refers to the scientific discipline dealing with the subject of the economy, and its analyses are restricted to those fields that define economy in the proper meaning of the term. Pies (1998: 2) used the metaphor of an 'allotment garden colony' to criticise this interpretation. Many economists subscribe to this understanding of a 'landscape of science' as such a colony, concentrating their work on the cultivation of that allotment garden that is (mis-) interpreted as the economic one, claiming exclusive responsibility for

the economic realm while at the same time abstaining from any analyses outside the alleged economic sphere. One consequence of this reductionism is that any topics and research questions that do not evidently belong to the economic sphere never appear on the monitors of economists and thus are not considered as relevant research topics.[2]

There is an alternative interpretation of the relationship between economics and the social sciences, however. From this second perspective there is no division between economics and the social sciences because the latter is just the generic term to describe the former. Criticising the development sketched above, economists who subscribe to this interpretation claim that economics belongs to the family of the social sciences and that, indeed, economics is the social science that has the methodological toolkit needed to analyse all social phenomena, not just economic ones. Economics is even seen as 'the queen of the social sciences' (Van Suntum 1999: III) and part of this is a methodological imperialism within the social sciences; in this view, it is the economic method that renders the biggest scientific returns when analysing all kind of social phenomena. At its core, the economic approach is based on only three assumptions: rationally acting individuals, the importance of equilibrium and stable preferences. These provide an easy and flexible toolkit for designing more elaborated models to test empirical phenomena. A key figure for this angle is Gary Becker, professor of both economics and sociology at the University of Chicago.[3] In much of his work he disapproves of the tendency in the discipline towards limiting research to those problems that obviously belong to the economic sphere: 'The economic approach is a comprehensive one that is applicable to all human behaviour' (1976: 8). This analytical power thus should not be given away.

It is to this second perspective that the editors and (probably) also most of the authors of this book subscribe. It was the feeling of the organisers of the conference, however, that further discussion and exchange between economists and other social scientists are necessary to clarify the relationship and to explore the complementary potential between economics and the other social sciences. The topic of migration and integration seemed to be a particularly suitable research field for that purpose. The main aim of the conference was to bring together economists working on questions of migration and integration and migration researchers with a non-economics background (mainly sociologists and political scientists) working on economic issues in order to exchange experiences and to expand the mutual knowledge about theoretical approaches, primary research questions and methodological tools of data gathering and analysis.

Migration and integration seemed to be appropriate areas of study because migration research 'intrinsically' (Castles & Miller 2003: 21)

transgresses the boundaries of the established disciplines in the social sciences and calls for interdisciplinary research and cooperation between the relevant disciplines (Brettell & Hollifield 2000; Bommes & Morawska 2005). Moreover, migration research as an established subdiscipline appears to be a suitable case study because tendencies of alienation between economics and the social sciences clearly have been visible in migration research for many years. Indications for this can be found in the National Survey of Immigration Scholars (NASIS), conducted in the late 1990s in order to grasp the social, academic and ethnic background of immigration scholars as well as their research interests. Thirty-three per cent of all scholars surveyed categorised themselves as sociologists, 28 per cent as historians and 12 per cent as anthropologists. Only 9 per cent were classified as economists or political scientists (Rumbaut 1999). The NASIS results point to the fact that it is primarily sociology and anthropology that dominate migration research. Both disciplines have a long tradition in dealing with issues of migration and integration. In American sociology, for example, it has even been a constitutive topic; the influential Chicago School had a central focus of analysis on problems of assimilation and ethnic relations from the early twentieth century onwards.[4] The imperial economics approach of being able to study all human behaviour, however, has not been exploited exhaustively in migration research. The claim that migration research is an instructive field for demonstrating the alienation and partial self-division of economics and the other social sciences can be underlined further by the way in which migration research is institutionalised. One of the most recent examples of this is the Network of Excellence IMISCOE (International Migration, Integration and Social Cohesion), funded by the European Commission.[5] Eleven out of the nineteen leading European migration research institutes that are affiliated to the IMISCOE Network are currently directed by either a sociologist or an anthropologist; none of them is directed by an economist. In this respect, migration research seems to be a prime example of an artificial barrier between economics and the (other) social sciences. Tendencies of alienation are further aggravated by two features that have been constitutive for the established and institutionalised migration research in the last years: an overemphasis on normative concerns and a main focus on distributional aspects.

Migration researchers themselves have pointed to an overemphasis of normative concerns in many projects and publications in migration research (Bommes 1999, 2006; Freeman 2005; Hollifield 2000) and they have argued that normative blinders have been restricting the empirical and analytical potential of research. Freeman (2005) identifies the normative bias and analytical deficits as the main causes for the 'numerous pitfalls and meagre promise' of migration research for the

social sciences. This is not a particularly new finding. Twenty years ago Treibel (1988) pointed to the fact that much of the migration research of the 1970s and early 1980s was driven by strong political and normative engagement and correspondingly showed a lack of professional scientific detachment. Freeman (2005: 114) even warned young political scientists against choosing migration and integration as areas of study because this would imply 'negative consequences for professional careers'. Striking examples for the often normatively exaggerated and politically alarmist character of migration research can be found among much of the literature on xenophobia, right-wing parties and anti-immigrant mobilisation.

Research on anti-immigrant movements and political right-wing extremism and its impact on migration and integration has been flourishing for many years.[6] However, when confronted with empirical reality, most of the relevant studies in this stream of research prove to be greatly exaggerated and create the impression of influential and mushrooming right-wing parties and anti-immigrant discourses around the globe that effectively push governments to close their borders and to abolish any integration offers to migrants and their descendants already residing in the respective country (see for example Jaschke 1992 and Perea 1997). Empirical reality, however, provides a more differentiated picture. Most right-wing and anti-immigrant parties have never, or only for a limited time, managed to get into power; a considerable number of them disappeared after a short period (Ivarsflaten 2006; Van der Brug, Fennema & Tillie 2005).

A second example of the normative overstretch of migration research is the emphasis on those migrant groups that are alleged to be worse off in socio-economic terms than the native population. For instance, highly skilled migrants whose 'importance [...] on the European labour market far exceeds their numbers' (Salt 1992: 485) have largely been ignored in migration research (Appleyard 1995). Instead, a considerable part of the established migration research seems mainly to be concerned about the well-being of migrants and less interested in empirical reality. In doing so, migration research in many respects appears as being rather 'caring' and normatively blinded (see also Kolb 2006: 160-161). Economics, on the other hand, puts a much higher emphasis on positive analysis and claims to refrain from normative judgements.[7] The difference between the guiding orientations of mainstream migration research and economics, thus, may have hampered the potential for more extended cooperation and joint research efforts thus far.

The underdeveloped mutual interest in cooperation between migration researchers and economists may be also due to the fact that distributional aspects play a major role in migration research. As Bommes (1999, 2006) argued, migration research has restricted its research to

the paradigms of social integration and social inequality for a long time. Research concentrated on assessing and discussing the distributional position of migrants concerning access to social resources like income, education, prestige, health and rights (see also Bade & Bommes 2004). The persistence of social inequality of migrants is taken as a seismograph of failing social integration. According to Bommes (2006: 179) 'the integration paradigm had been dominant in sociology and the social sciences for a long time'. This is by no means surprising, because what in our context is illuminating and indicative for the distributive bias of migration research is the fact that 'the definitions and meanings of integration in much of the literature followed closely the perspective of the welfare state' (Bommes 2006: 179). At least in the European context the understanding of integration as equal participation in the different realms of life provided the guiding principle of migration research. Migration research therefore succeeded in contributing to questions related to distributional issues and social positioning, but this narrow focus was costly since many aspects not directly related to the distributional position of migrants have largely been ignored.

A look at the three most prevalent definitions of what economists are concerned with indicates that the distributional emphasis in migration research might clash with the interest of economists. Becker (1986) provides three historical definitions of economics as a field of study: first, in terms of the allocation of material goods to satisfy material wants; second, in terms of the market; and third, in terms of the allocation of scarce resources among competing ends. These definitions indicate that economists consider distributional effects only to a limited degree and normative concerns for social equality are rather observed as problematic motives for the legitimation of market interventions. The reluctance of economics to engage in discussions about distributional concerns is also reflected in the existing body of economic migration research. This can be differentiated in three sub-fields dealing with: a) the migration decision, b) the economic impact of migration on labour, capital and consumption markets and c) the economic assimilation of migrants. Distributional concerns only exist in the latter research stream using – in broad accordance with most other migration research – the economic and social position of migrants in the destination countries as indicators of assimilation[8] (see also Bauer, Haisken-DeNew & Schmidt 2004; see also Tietzel 1995). A comprehensive microeconomic stream of research focuses on the factors determining the decision to migrate.[9] The more macroeconomic-oriented research concentrates on the impact of migration and deals with the consequences of migration for different social realms in the destination country.[10] An important point in understanding the mutual scepticism

of economics and migration research thus is the different relevance attached to distributional issues taken as one guiding principle for research by the one side and treated as an issue of relative importance by the other side. Therefore both perspectives seem to be only partly compatible.

Both the economic self-reductionism and self-understanding as 'science of the economy' and the normative bias and analytical self-restriction of migration research seem to give away a lot of analytical potential. The economic effects of immigration are interesting and also worth studying beyond distributional concerns. In addition to that, the economic method proves to be effective and powerful if applied to phenomena of migration and integration (Esser 1980; Kalter 2000; Kristen 2005). The broader motive for organising the conference[11] thus was the insight that a further impulse for a dialogue between economists and migration researchers could help to overcome the barriers and mutual scepticisms on both sides.

In this volume we present a selection of papers that have been presented at the conference. Additionally, we include two solicited papers. Thus the volume comprises papers that either stress the importance of economic aspects for understanding migration phenomena or illuminate the potential of the economic method and economic theories for aspects of migration and integration even in the case that those are not directly and immediately connected to the societal realm of the economy. In doing so, this volume aims to contribute to a slow process of rapprochement between migration research and economics that recently started and rapidly accelerated.[12]

On the one side, in Germany, for instance, the majority of the highly rated economic research institutes (DIW, ifo, HWWI, RWI) have integrated systematically questions related to the processes of migration and integration into their research programmes.[13] This development is not restricted to Germany; internationally acclaimed economists such as Barry Chiswick, George Borjas or David Card also increasingly deal with migration issues. And outside the disciplinary boundaries of economics, the economic method is influencing the work of an increasing number of scientists active in migration research. This particularly applies to sociology, but also to political science. On the other side, institutionalised migration research – involving a number of social science disciplines – has begun to reduce its normative overload, to reform its one-sided orientation on distributional issues and to turn its attention to the structural effects of migration on various societal realms. This process of reorientation within migration research is by no means limited to the rational choice approach but applies also to competing theoretical approaches such as systems theory (see among others Bommes 1999, 2001; Stichweh 1998, 2005). The contributions in this volume

aim to foster this recent development of a growing mutual interest in each other by bringing together the work of economists, sociologists and political scientists.

The first contribution by the economist Christian Lumpe focuses on the impact of immigration on labour markets. The author provides an overview of economic models, derived predictions and empirical findings. He shows that the predictions derived from the models and empirical findings do not point in only one direction, but in many. Furthermore, the paper provides a detailed literature review which could be a useful starting point for readers who would like to examine economic theory and economic empirical findings. Intended as an introductory chapter, Lumpe familiarises the reader with economic methodology and terminology and provides a survey of one of the main streams of economic migration research. Since he focuses on two countries that are highly important for migration issues – Germany and the US – the paper is also of importance for those contributions in the volume that focus on migration and the German labour market (i.e. Windzio, Fellmer, Kogan and Cohen, Hoesch).

In contrast to Lumpe, economist Mete Feridun addresses a macroeconomic issue and tackles a classic problem of economic migration research. Feridun analyses the economic impact of immigration on Norway, a country that, similar to its European neighbours, is undergoing major demographic changes due to decreasing fertility rates since the 1960s. Particularly in countries with sharp fertility declines, immigration is often hastily recommended as a strategy to compensate for the demographic deficit. Feridun analyses this 'immigration therapy' for ageing societies by investigating the causal relation between immigration on the one hand and GDP per capita and unemployment on the other. Drawing on the period 1983 to 2003 and using several econometric methods, his analysis seems to indicate that increasing levels of immigration stimulate the growth of the GDP per capita while no significant effect on the levels of unemployment can be assessed. Thus, at least the Norwegian case does not provide evidence that immigration might not contribute to the maintenance of a high standard of living in countries that are exposed to a demographic transition.

As already indicated above, the disregard of economics by migration research also contributed to an unnecessary waste of analytical potential in methodological terms. The economic method as claimed by Becker and others, which in sociology became very successful as rational choice approach, has been proving to be a powerful analytical scheme for analysing different social phenomena for a long time. Three chapters of this volume demonstrate and exemplify this potential for migration research. Sociologist Michael Windzio analyses the labour market mobility between the east and the west of Germany. Given

the huge disparities between the supply of jobs in both parts of the country, the exit option for East Germans of expanding their job search to West German labour markets appears to be the obvious response. In his analysis, Windzio investigates how the exit choices of East Germans depend on individual and contextual factors by differentiating between factors of individual characteristics, social network effects, regional factors and institutional factors on a macro and a meso level. Windzio uses his results to emphasise the possibility for political influence on mobility and warns against the rash differentiation between good and bad mobility.

The chapter by economist Simon Fellmer is placed in a similar theoretical frame and also focuses on the migration decision. He takes up the very recent example of the migration of Polish medical doctors to Germany and analyses the impact of changes in the new German immigration law on the migration decision of the target group by a subsequent visualisation of the individual cost-benefit analyses.

A further paper that applies the economic method for analysing migration phenomena is by the sociologists Irena Kogan and Yinon Cohen. The authors exploit an almost unique situation for social scientists. In a rather short time frame both Germany and Israel allowed a group of Jews from the former Soviet Union to immigrate freely to Germany and Israel respectively so that the basis for a 'laboratory experiment' was available. This enables the authors to study patterns of migration choices and immigrant self-selection in each of the destination countries and to uncover the suitability of the receiving societies' institutional design for integrating immigrants into the labour markets of the host societies. The common denominator of the papers by Windzio, Fellmer, Kogan and Cohen is their rigorous rational choice approach and the illustration of the broad applicability of the economic method for various migration phenomena.

Potential benefits from cooperation between economists and migration researchers are also indicated in the paper by the political scientist Holger Kolb. He uses the club theory, a theory from the branch of public choice, to analyse the action of welfare states with regard to their population. Relevant strategies for influencing the state population are immigration policy on the one hand, and family policy on the other, which shapes the institutional environment for the decision to start a new family. Tracing the developments of immigration policy and family policy mainly in Germany and the US, the author demonstrates the potential of the club theory as a heuristic device for the analysis of state population policy. In his paper it is not mainly the economic method that displays its potential for migration research but the existing body of theories developed by economists.

The contributions of the non-economists Wei Shen and Kirsten Hoesch emphasise the importance of taking into account the economic aspects when studying migration patterns, and thus implicitly argue for cooperation between economists and migration researchers. Both papers discuss the constitution and emergence of markets and their relation to migratory patterns. In Wei Shen's paper, which focuses on a neglected topic in migration research, the international students' migration from China to European countries, it is the emergence of a global market for education which is further accelerated by the Bologna process and which triggers increasing mobility of students to the most famous educational institutions of the world. In this paper, special attention is paid to the economic impact of Chinese students in France and the UK. Kirsten Hoesch's focus is on a market that, at least in Europe, has been denied to be a real market for a long time and which counts among the most regulated markets in all countries. Her analysis concerns the health sector in Germany and the UK. Exemplifying different recruitment patterns in both countries by referring to the group of medical doctors, she underlines the importance of endogenous features of the sectors. Both papers emphasise that, of course, it is not necessary to be an economist to analyse labour market and economy-driven migratory patterns, but that it is inevitable that one must take into account the economic foundations of market structures to reach an adequate understanding of migration.

Two more papers of the volume are thematically close to each other and both focus on remittances. Economist Metodij Hadzi-Vaskov provides an unconventional view on international risk sharing. He illustrates that one of the most important potential benefits from the process of international financial integration is the opportunity it offers for the international diversification of macroeconomic risks. He outlines that workers' remittance flows to developing countries are an important channel through which the process of international risk sharing might take place. Thus, countries which receive an above-average level of workers' remittances can enjoy a higher degree of international risk sharing. Hadzi-Vaskov shows that this effect is not uniform across different groups of developing countries, and it seems to be the strongest in transition economies. A different perspective and a different methodology on the same issue come from economist Florin-Petru Vadean analysing remittances of immigrant groups in Germany. Vadean uses qualitative research methods in order to investigate the three groups of Afghan, Egyptian and Serbian immigrants in Germany. His results show the influence of education and skill level on remittance behaviour. The skill level affects the purpose of remittances. Highly skilled migrants rather remit for investment in productive businesses

and low skilled migrants more often tend to remit for consumption needs of their family members.

Complementary to the effects of migration and monetary transfers which are discussed by Hadzi-Vaskov and Vadean, the effects of migration on the transfer of goods are analysed by economists Gustavo Javier Canavire Bacarreza and Laura Ruud. They establish the connection between migration and trade and test the impact of migration on foreign trade in a small and closed economy, Bolivia. They particularly explore the correlation of immigration and emigration on exports and imports and on intra-industry trade. The results reveal that immigration has a significant positive effect on exports and imports and that migration flows also positively influence intra-industry trade.

Notes

1 The conference *Work, Entrepreneurship and Economic Integration: Migration Research in Economics and the Other Social Sciences* was held at the Institute for Migration Research and Intercultural Studies at the University of Osnabrück on 28-29 January 2006. The editors would like to thank Michael Bommes for hosting the conference and Clemens Esser of INFER for organisational support.

2 This accusation of self-reductionism does not, of course, apply to most economists whose interests lay, for instance, in such fields as behavioural economics, new institutional economics or experimental economics.

3 Becker was awarded with the Nobel Prize for Economics in 1992 for 'having extended the domain of microeconomic analysis to a wide range of human behaviour and interaction, including nonmarket behaviour'.

4 See the early pioneering study of Thomas & Znaniecki (1918/1921) and Park (1950). For the assimilation approach currently returning on the agenda see Alba & Nee (2004), Brubaker (2001) and also Gordon (1964).

5 One of the key aims of IMISCOE is to build a joint European programme of research activities. Running research of the IMISCOE partners is accommodated in nine research clusters and one of these clusters, B4, deals with the economic dimension of migration and integration, i.e. work, entrepreneurship and economic integration that are usually seen as central dimensions of the social integration of migrants (see Bommes & Kolb 2006 for an overview).

6 See for example Miles (1982), Betz (1994), Minkenberg (1997), Mudde (2000), Eatwell (2004) and Giugni, Koopmans, Passy & Statham (2005).

7 See for example the influential essay of Friedman (1953) on 'The Methodology of Positive Economics'. It is worth to note however that this assumption – economics as a value-free (in a Weberian sense) scientific discipline – is criticised by sociologists as an illusion. They point to the normativism implied in their basic assumptions concerning utility maximising behaviour, market equilibria and efficiency. Economists favour efficiency and thus are normative in a different way (see Bommes 2006: 191-192).

8 The most common indicator used for the measurement of successful assimilation of migrants in the destination country are wage differentials between immigrants and natives. Based on the assumption that at least parts of the human capital of migrants accumulated in the country of origin are not applicable in the destination country, wage differentials are seen as the effect of the different marginal productivities of

migrants and natives. The comparatively low wages paid shortly after the immigration process indicate from an economics' point of view low opportunity costs of human capital investment; therefore a process of catching up of human capital endowment and consequentially of wages is expectable.

9 The spadework in this respect is the work by Sjastaad (1962), Mincer (1978), Stark (1991) and Stark & Taylor (1991).

10 The main focus of this stream of research is the analysis of the impact of migration on labour markets measured by crowding-out effects of immigrants on native workers. See for excellent overviews of the literature Borjas (1999) and Bauer & Zimmermann (2002).

11 It should also be said, however, that by organising the conference the two responsible networks also were aiming at solving an institutional problem. The conference was the kick-off of an ongoing cooperation between the members of the Cluster B4 Work, Entrepreneurship and Economic Integration of the IMISCOE Network and the members of the working group Economics and the Social Sciences of the International Network of Economic Research (INFER e.V.). The trigger of the cooperation between the IMISCOE cluster and the working group of INFER was the perception of a symbiotic interrelation between both groups. The main aim of the IMISCOE Cluster B4 is the analysis of processes of economic integration; however, it was exposed to the institutional challenge that very few economists had joined the cluster at its beginning. The INFER working group Economics and the Social Sciences was founded to discuss the relationship of the scientific discipline economics to the other social sciences (for a first attempt in this direction, see also Egbert & Esser 2007 and the forthcoming special issue of the *Journal for Ethnic and Migration Studies*, edited by Christina Boswell and Peter Mueser). Migration research seemed to be a promising field of study in order to serve the needs of both networks, i.e. to address economists who have the relevant expertise to discuss economic aspects of migration and integration and to define a common area of study to discuss the relation between economics and its sister disciplines.

12 One of the most recent steps in this process was the funding of study groups by the Volkswagen Foundation in the research framework Migration and Integration. Two out of seven study groups have an economic background and apply economic methods.

13 One research programme of the Hamburg Institute of International Economics (HWWI) focuses on migration (Economies and People in Motion) and the RWI Essen features a new competence area called Migration, Integration and Education. This process of mutual acculturation, however, seems to be still in its scientific nappies, as the example of the IMISCOE Network clearly indicates. At the beginning of the work of the network, IMISCOE covered 19 leading migration research institutes in Europe, none of them having an economic main area. In the meantime, HWWI is an associated member of IMISCOE and fills some of the economic gaps in the network.

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The Impact of Immigration on the Labour Market

A SURVEY[1]

Christian Lumpe

1 Introduction

Immigration is one of the most heatedly debated issues in politics. The rising immigrant numbers and the resulting fears of the native population have led to more restrictive immigration policies in many industrialised countries. Most of the native's reservations regarding immigration are based on 'distributional' arguments, that is, that immigrants will replace native workers, which will result in higher native unemployment rates and/or lower wages. However, the theoretical and the empirical economic literature do not arrive at these clear results. To the contrary, the economic literature on immigration concludes that immigration can be beneficial, harmful or can even have no effect at all on the labour market prospects of natives. Everything depends on which theoretical model or empirical study one believes.[2]

I will concentrate in this survey on the impact of immigration on different labour market institutions: competitive versus rigid labour markets. Therefore we will review the different theoretical models and the results of empirical studies from two prototypes of immigration countries, the US and Germany, which are characterised by the aforementioned labour market institutions. US labour markets are typically thought as competitive, while in Germany wage rigidities are generated by collective wage setting and a generous social protection system. There are further important issues of the impact of immigration on native welfare that this survey does not cover.[3] The structure of this survey is as follows: first, we describe the immigrant population in the receiving countries; second, we summarise the theoretical literature on the impact of immigration on the labour market; and third, we provide an overview of the empirical studies.

In section two, we will summarise the stylised facts on immigration to show similarities and differences between the immigrant inflows to both countries. The similarities between the US and Germany are the increased number of low-skilled immigrants and the increased number of refugees. The differences are their recognition of the increasing im-

migrant flows and the different immigrant population concerning the educational level of immigrants. In both countries, immigrants often have higher unemployment rates, less education and earn lower wages. However, in the US we find much more heterogeneity with regards to immigrants' education levels and their success on the labour market. In contrast, the German immigrant population does not show this bimodality because there are very few highly skilled immigrants.

Section three will provide an overview of the theoretical explanations of the effects of mostly low-skilled immigration on the labour market outcome of natives. We consider the different theoretical results of immigration on wages or employment of natives depending on either the existence of competitive or rigid labour markets in both closed and open economies. In closed economies and under competitive markets, immigration theory predicts that immigration results in an overall gain for natives. The same result holds if we open this kind of economy to international trade: immigration leads as international trade in goods to an overall gain. But in the long run, international trade theories as well as labour markets including union behaviour or exogenous minimum wage legislation may reverse this result and lead to a non-existing or even negative effect of immigration. Furthermore there are substantial clear-cut distributional effects from a theoretical viewpoint. These effects are often more decisive for a certain immigration policy than the question of the overall impact of immigration in a country. Thus, the advice for politicians ranges from no migration at all, to creating migration barriers, to implementing wage subsidies to offset the negative effect of laissez-faire immigration. As the theorists are undecided, the empiricists may have a clearer answer.

Therefore, in section four, the empirical literature on the labour market impact of immigrants will be reviewed. Unfortunately, the empirical literature also argues about the effect of immigration, specifically in regards to the distributional effects of immigration. As in the theoretical literature, it seems to be a question of the model used. Apparently, adherents of local labour market studies believe in the rather non-existing or quite modest effect, whereas national labour market supporters see a clear negative effect. And most surprisingly, the newest studies even show a positive effect of immigration on native wages. Interestingly, most of the studies are concerned with the US labour market. In Germany there are far fewer studies, although there are rather heated debates about this issue.[4] Section five will conclude with a comparison of the theoretical and empirical results.

2 Stylised facts

We will discuss the current economic status of the immigrant population within four categories: (un-)employment, labour force participation, wages and education. In each section we will show the stylised facts of the immigrant population in the US and compare these with the respective situation in Germany.

(1) (Un-)employment status of immigrants: In general, immigrants (male and female) have higher unemployment rates compared to US natives. The unemployment rates are lower for the elder immigrants and unemployment rates are much higher among immigrant women relative to immigrant men. Obviously, the unemployment rate also depends on the educational level of immigrants. The immigrant groups are divided in one part with low unemployment rates and high employment rates (Europeans, Canadians, Asians and Africans) and a second part with the opposite characteristics (Caribbeans and especially Mexicans and other Latin Americans). This bimodality holds for all following categories (see Chiswick & Sullivan 2005).

Immigrants are employed in the private sector more than in government agencies, but the negative government agency bias disappears with the duration of stay (rising naturalisations) and as English proficiency increases. Again, Mexicans have the lowest rates of government employment and Asians the highest. The occupational distribution is nearly the same for native and immigrant men, but differs largely among immigrant and native women. The Western Europeans, Canadians and Asians are largely represented among managerial or professional occupations, whereas Mexicans and other Latin American are mainly occupied in operative and labourer jobs. The often-cited claim that immigrants take jobs which natives do not want to do cannot be documented in general (see Chiswick & Sullivan 2005).

(2) (Un-)employment rate: In the 1960s, the unemployment rate of immigrants was still lower in Germany but this changed at the start of the recession in the early 1970s. The German government introduced a law prioritising the hiring of natives (*Inländerprimat*). Today, the overall unemployment rate of immigrants is higher than the respective unemployment rate of natives: an unemployment rate of 19.1 per cent for foreigners compared to 10.8 per cent for natives in 2002 (see Bauer et al. 2005). Interestingly, we cannot find the bimodality of unemployment experiences as in the US. In Germany, all groups except the Spanish immigrants have higher unemployment rates, with the Turkish community experiencing the highest unemployment rate (23.6 per cent). The employment structure is generally the same as in the US. Most of the immigrants – especially the guest workers and the ethnic Germans – work either in operative and labourer jobs while natives

work more in managerial positions. Immigrants are employed mostly in the construction, mining and service sectors. The decline of these sectors may be one reason for their higher unemployment rates.

(3) Wages: The characteristics of the wage earnings development in the US are described by the seminal paper of Chiswick (1978). Usually the age-earnings profiles of immigrants are steeper than for natives: immigrants have lower wages in the beginning, catch up over a period of ten to fifteen years and often end up with even higher wage earnings than comparable natives. This development is explained by higher incentives to invest in country-specific human capital and positive self-selection of immigrants. Nevertheless, the development of immigrant earnings is rather controversial: the pattern of catch-up suggested by Chiswick was challenged by Borjas (see Borjas 1985; Borjas 1995a). Borjas uses a within-cohort analysis and finds a relative decline of wages of subsequent immigrant cohorts and no complete convergence of wages between immigrants and natives. He attributes the decline of educational attainment by immigrants as a reason for the decreasing assimilation of immigrant earnings. In contrast, Chiswick (1986) and more recently Card (2005) disagreed on the often expected decline in immigration educational attainment and show that the catch-up of immigrants' earnings is still present. Still, the divergence between different source country groups is rather high: Europeans, Canadians and Asians earn more than Mexicans or other Latin Americans. And it will be the former groups who catch up or even overtake the respective group of natives.

The literature on (the convergence of) wage earnings of immigrants in Germany is extensively surveyed by Bauer et al. (2005). Apparently, immigrant earnings in Germany do not show the same kind of convergence as in the US. In particular, guest workers show either no or very little wage adjustment over time. Dustmann (1993) explains this difference by the temporary character of migration due to the guest worker system. Temporary immigrants will invest less in human capital and are often negatively selected. In comparison to the second large group of immigrants in Germany – the ethnic Germans – the differences are even more surprising: Bauer and Zimmermann (1997) and Schmidt (1997) report no significant initial earning gap between ethnic and native Germans and nearly the same age-earning profiles as native Germans. The reason for this fast assimilation is a higher investment in country-specific human capital.

(4) Education: In general, immigrants are characterised by lower educational attainment compared to natives. Within the group of immigrants, the educational attainment of men is higher than that of women. The proportion of the highest educational attainment (more than sixteen years of schooling) is the same among immigrants as among

natives but the group with the lowest educational attainment is significantly larger among immigrants than natives. Interestingly, Chiswick and Sullivan (2005) find no large variation concerning the arrival date, but a strong dependence on the source country. The change in the source countries of the recent decades influences the overall education as well as the dispersion of education. Thus, the two main sources of immigration – Asia and Latin America (mainly Mexico) – lead to a bimodal distribution: very high and homogeneous educational attainment among Asians and very low educational attainment of Mexicans and other Latin Americans.[5]

3 The theoretical labour market impact of immigration

In this section, we will provide a general analytical framework to discuss several theoretical results concerning the impact of immigration on labour markets in the host country. Basically, we distinguish two kinds of models, namely models with competitive labour markets and models with rigid wages. We start with the presentation of a competitive economy where the number of goods and factors are the same and, as a special case, we will analyse the well-known Heckscher-Ohlin model (HO model). We continue with the uneven cases of either fewer goods than factors where we analyse the Berry-Soligo model (one good and two factors), and the Ricardo-Viner model (two goods and three factors) or fewer factors than goods where we look at the special case of a continuum of goods. Furthermore, we will show the Ricardian framework as well as increasing returns. After providing an analysis of competitive economies, we will introduce rigid wages and reconsider the impact of immigration.

3.1 Competitive factor markets

3.1.1 A general framework

We will give a general theoretical framework in which we discuss different theoretical models of the impact of immigration on native wages and employment.[6] We consider an economy with N goods and M factors. Assume that production of these goods can be described by a concave and linear homogeneous production function $y_i = f_i(v_i), i = 1, ...N$ where $v_i, i = 1, ...N$ is the vector of factor inputs. Furthermore, we assume that factor intensity reversals do not exist. Labour and capital are fully mobile between the sectors and product and factor markets are fully competitive. The vector of factor prices is $w = w_1, ..., w_M$. The corresponding unit-cost function can be written as:

$$c_i(w) \equiv \min_{v_i \geq 0}\{wv_i | f_i(v_i) \geq 1\}. \quad (1)$$

$c_i(w)$ describes the minimum cost to produce one unit of output. After applying Shepard's lemma, we get the factor intensities or the optimal factor demand for each factor: $\partial c_i / \partial (w_j) = a_{ij}(w)$.

Under perfect competition on goods markets, firms generate zero profits, resulting in the following equilibrium conditions:

$$p_i = c_i(w), i = 1, \ldots N. \quad (2)$$

Combining the zero-profit condition with the full employment conditions and by inserting $\partial c_i / \partial (w_j) = a_{ij}(w)$ in $v_i = y_i a_{ij}(w)$, we get:

$$V_j = \sum_{i=1}^{N} y_i a_{ij}(w), j = 1, \ldots, M, \quad (3)$$

with V_j as the endowment of factor j. In this setting, we analyse three different cases: the even case (the same of goods and factors) and the uneven cases (either fewer or more goods than factors).[7]

3.1.2 *The even case*

The most common type of the models with the identical number of goods and factors which is the 2×2 Heckscher-Ohlin (HO) model, with $M = N = 2$. Considering a small open economy and with the assumptions that the economy is fully diversified and factor prices are fully determined by world prices, we get a first important result for the possible impact of immigration: An inflow of immigrants, which is nothing else than a change in endowments, will lead to an increase in the output of the sector which uses this input intensively and decreases the output of the other sector. This result is summarised by the Rybczynski theorem. Thus, immigration would not lead to any wage or aggregate employment changes of native workers.

If we consider an integrated world equilibrium and identical technologies in this kind of model, goods' prices are not fixed but factor price equalisation occurs across countries. That is the important result that trade in goods can substitute for trade in inputs which is due to the export of the labour-intensive good by the labour-abundant country.[8] There are the same wages in all countries and thus there are no incentives to migrate at all. The resulting immigration surplus is zero and there are no distributional effects of immigration.

Trefler (1997) shows that these results are robust against technology or input quality differences between countries. But, in these cases, immigration has an impact on native welfare. If a highly skilled immigrant moves to a country where she is more productive, the world production of one good will be expanded. The resulting price for this good decreases, which leads to falling wages of highly skilled workers and

increasing wages of low-skilled workers. Therefore immigration changes the productivity and the terms of trade. In the case of costly factor and goods movements in the same type of model, Venables (1999) can explain that trade liberalisation may reduce the immigration flows through a reduction of the factor-price differential.

3.1.3 The uneven case

First, we analyse the case of fewer goods than factors $M > N$. We are especially concentrating on two known types of this case: the Borjas model that has one sector and two factors and the Ricardo-Viner model with two goods and three factors. In the uneven case, the Rybczynski theorem does not hold anymore because a change in the factor endowments will lead to changes in the factor prices and thus the input coefficients a_{ij} will change. We illustrate this result by two special cases: first, the partial equilibrium model or one sector model of Borjas (1995b, 1999), which can be considered as a 1×2 case, and the specific factor (or Ricardo-Viner) model, which is the case of two goods and three sectors.

One-sector model: In the theoretical literature based on labour economic approaches, one-sector models are often used, which generate different results from the multisector models.[9] We present an open economy but one gets the same results if one would consider a closed economy or a large country such as the US (see Borjas 1995b, 1999). Introducing $M = 2$ factors (suppose, for example, factor L is labour and capital is K) and one sector $N = 1$, Borjas (1995b, 1999) shows that the benefits of immigration for natives depend on whether natives are capital owners and whether immigrants have complementary capital endowments as natives. First we consider the case where immigrants do not bring any capital with them. The total income of the host country, excluding immigrants, is given by $Q = rk + wL$. The price of output will be the *numéraire* meaning that factor prices are measured in output prices. With perfect competition on factor and goods markets, marginal products equal marginal costs: $w = f_L(L, K)$ and $r = f_K(L, K)$. With an additional inflow of immigrants, the aggregate labour supply will be increased by $\Delta L = M$, which leads to a wage reduction from $w = w'$.

In figure 1, the $f_L(L, K)$ curve denotes labour demand and the vertical line that originates in N depicts labour supply before immigration. The equilibrium wage before immigration is then given by w. With the inflow of $\Delta L = M$ immigrants, labour supply shifts outwards. The respective equilibrium wage is therefore reduced from w to w'. Native wage income will fall from wN to $w'L$ but the difference of $(w - w')L$ will be distributed to native capital owners. The depicted triangle in figure 1 shows the resulting immigration surplus of the native population.

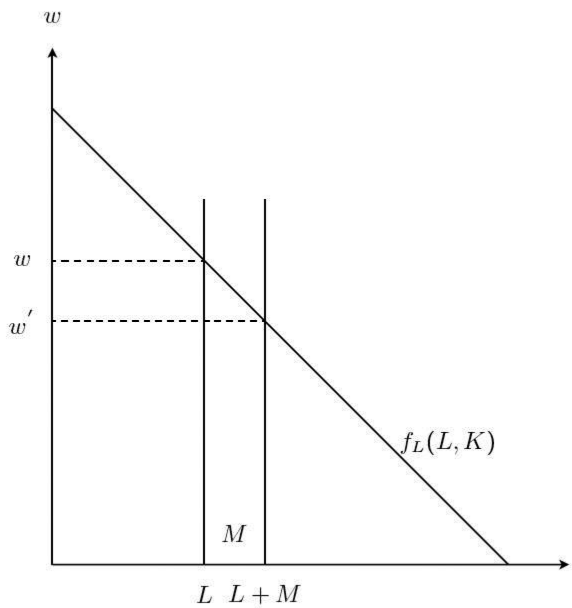


Figure 1 *The immigration surplus: one-sector model*

The major difference from the two-sector model is that now factor prices depend on factor endowments: the wage falls with an increasing number of immigrants in the host country. The influence of immigration is a redistributive effect: the aggregate welfare of the native population will rise but the gains accrue only to native capital owners while native workers experience a reduction in wages. The result changes if we consider that immigrants take capital with them to the host country. Immigrants who enter the host country with as much capital as natives own will replicate the existing economy. Thus, the resulting immigration surplus would be zero.

Furthermore the immigration surplus depends on the elasticity of the labour demand curve. What happens to the immigration surplus if we weaken either the assumption on the elasticity of the labour demand curve? If the labour demand curve would be perfectly elastic, immigration would not have had any influence on the native wage and immigrants would receive the resulting immigration surplus.[10]

Now let us consider the case of three factors $M = 3$ one sector $N = 1$: highly skilled labour L_H, low-skilled labour L_U and capital K, which is mobile across countries. Both immigration surpluses (either for the case of purely highly skilled immigration or purely low-skilled immigration) are positive so that it is not clear if a country should admit highly or low-skilled immigrants. Borjas (1995) argues that the immigration surplus of highly skilled workers should be higher because

the elasticity of the factor price for highly skilled labour is larger for highly skilled workers than for low-skilled workers. An economic explanation for this higher elasticity is that highly skilled labour should be complementary to the factor capital. Typically, there should be also an opposite effect: if the native population is mainly highly skilled, the substitutability of highly skilled immigrants may compensate the positive immigration surplus from the complementarity of production of highly skilled labour and capital. For countries like the US and the UK, which are characterised by competitive labour markets and mostly low-skilled immigration, immigration is positive for the overall native population, but capital owners and highly skilled natives gain while low-skilled natives lose.[11] As in Berry and Soligo (1969), the theoretical welfare analysis of Borjas would imply a laissez-faire immigration policy. The model of Borjas clearly shows the distributional consequences and the possible welfare gains of immigration for a native labour market. But in an economy with an endogenous labour supply in which immigration will affect the educational decisions of natives, the distributional consequences depend on the host country's level of education and the educational endowment of immigrants (see Lumpe & Weigert 2004). Focusing on skill premia, immigration may influence the educational decision that the resulting skill premia would be compensated and therefore leading to lower wage inequality.

Specific-factor model: In the specific-factor model, we change the assumption of factor mobility between sectors: one factor will be now sector-specific. Assuming K_i as a sector-specific input, L will still be mobile across sectors. We get a different equilibrium condition (2) from the general framework:

$$p_i = c_i(w), i = 1, 2,$$

where factor prices for the factor K_i will not be the same across sectors.[12] In this case, and considering the same good price as well as technologies for both countries, factor-price equalisation will be quite unlikely. In the short run, the factor prices for capital between both sectors r_1 and r_2 are different due to the sector specificity of the factor capital. Furthermore, for an increase in the endowment of the mobile input (e.g. immigration), the Rybczynski theorem does not hold. Especially, sectors do not grow asymmetrically but both expand.

In figure 2, the revenue belonging to sector 1 is then the area O_1TEL_1 and the income generated by labour is O_1wEL_1. Obviously, the same holds for sector 2. If $\Delta L = M$ immigrants arrive, the wage decreases to w' to accommodate the increased labour supply but the interest rates and the output for both sectors increase. The areas A and B in figure 2 are the sector-specific input. Immigration will be beneficial for the host country, as in the case of the one-sector the immigration sur-

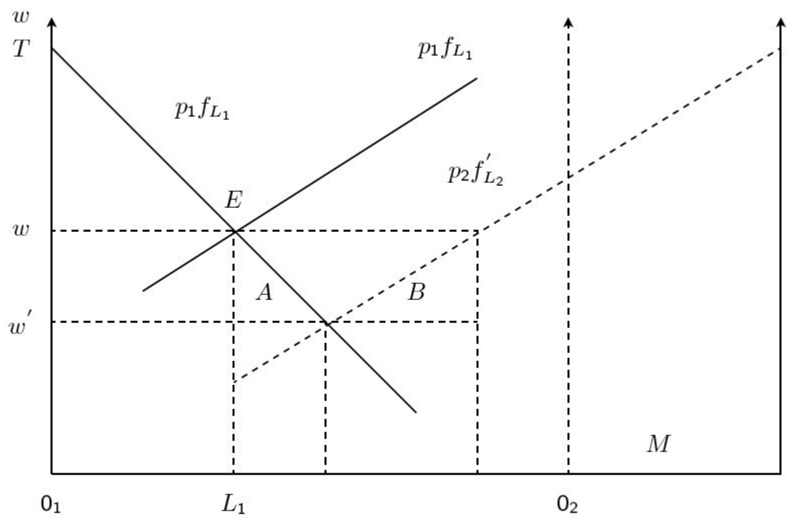


Figure 2 *The immigration surplus: specific-factor model*

plus, which shows the shift of income from labour owners to the owners of model. We get the same effect as in the one-sector model: a host country's welfare rises by the immigration surplus and we have distributional effects depending on the complementarity of the factors.

More goods than factors: We will now analyse the case of more goods than factors $M < N$. Suppose we have the situation of an economy with three goods and two factors $M = 2 < N = 3$. We then have three first-order conditions and two unknowns that give us no explicit solution. According to different price vectors that allow for zero profits, there are either multiple solutions for the outputs of the three sectors or specialisation in two of three sectors. Under the assumption of an integrated world equilibrium and market clearing for the goods and factor markets, we get a factor-price equalisation space where the national outputs are undetermined. Beyond the factor-price equalisation space, specialisation in the goods production leads to a determined production structure if factor prices differ between countries. This solution can be reached if we concentrate on endowment differences between the countries: the capital-rich country has to specialise in the production of the capital-intensive goods.[13]

3.1.4 *Ricardian model*

In this section we analyse the effects of immigration of low-skilled workers in a Ricardian model of the Dornbusch-Fischer-Samuelson type (see Dornbusch et al. 1977).[14] For the ease of exposition, we limit the analysis to $N = 3$ sectors. The only input is now labour and we as-

sume that the host country only produces good 1 while the origin country produces the other two goods. To produce one unit of output, we need a_i $(i = 1, 2, 3)$ units of labour. We get long run zero profits by equalising the price of the good p_i to the cost of producing one unit of the good: $w/p_1 = 1/a_i$. The goods are ranked according to the following index (asterisks denote the foreign country): $a_1/a_1^* < a_2/a_2^* < a_3/a_3^*$.

Suppose that the host country produces only the first good. If immigration takes place, all immigrants will be employed to produce good one, which leads to an excess supply of the first good. The wage in the host country will be driven down until it can also produce the second good. Thus, the production of the second good will shut down in the foreign country. The resulting immigration surplus is negative as the wage for producing the second and third goods has fallen and the wage for producing the first good will be constant. One example of this could be agriculture, an industry that survives only because of the existence of immigrants.

Davis and Weinstein (2002) extend this framework by allowing immigration of workers who have a different productivity than natives or inflows of capital that also differ only by their productivity. This kind of immigration takes place if the host country has a technological superiority in all of these respective factors (e.g. the US). They argue that this kind of immigration leads to high income losses of natives and the source countries will receive all of the gains from immigration. Felbermayr and Kohler (2007) combine the wage effect of Borjas (1995a), the terms-of-trade effect of Davis and Weinstein (2002), and endogenous goods prices into a general framework. They can show that the terms-of-trade effect dominates the other effects if immigration inflows are small. Furthermore they demonstrate that the repatriation of immigrant income, in combination with a non-tradable goods sector, may have an important influence on native welfare.

3.1.5 *Increasing returns to scale*

Introducing increasing returns to scale which are external to the firms to preserve a competitive economy, taking labour as the only input and staying in a world with two countries and two goods, the first result is that immigration increases native productivity. The increasing labour force in the host country increases the productivity and welfare of natives. A second effect is the expansion of the output, which leads to lower prices that, in turn, negatively shift the terms of trade and reduce natives' welfare. The trade-off between both effects generates an optimal immigration level. Immigration enhances welfare when the number of immigrants is small compared to the native population; however, for large native workforces or large immigration flows, the effect of immigration is negative.

3.2 Introduction of rigid wages

The analysis in the previous section focused on competitive labour markets where wages are flexible. These conditions plausibly match those of the Anglo-Saxon labour markets. Continental labour markets, however, are often characterised by rigid wages and resulting unemployment. Wage rigidity may be caused by minimum wage legislation, union wage setting, search frictions or efficiency wages. When analysing rigid labour markets, we may also discuss the effects of immigration on unemployment.

We will start with an analysis of Davis' insulation hypothesis (1998), in which he shows that the effects of immigration may not take place in the host country (in his case the US) but in another part in the world (Europe). In his model, an exogenously given rigid wage in Europe determines all factor and goods prices in both parts of the world under the assumption of a full diversified production structure. The only possible way of adjustment to immigration into the US from a third country (e.g. Mexico) is therefore compensation through the European production structure, hence through the European unemployment rate. Therefore the impact of low-skilled immigration into the US would be seen in a rise in the European unemployment rate instead of a US wage reduction.[15]

By introducing a binding minimum wage in the model of Borjas (1995a), all immigrants will be unemployed. For natives, wage earnings and employment will not change. Brecher and Choudhri (1987) extend this framework by including international trade in goods. Furthermore they introduce a minimum wage by an unemployment insurance financed by a lump-sum tax system. In this case, the high wage (capital-abundant) country will follow a no-immigration policy as optimal immigration policy.

Another possibility to analyse unemployment resulting from an institutionally set minimum wage is the well-known Harris-Todaro model (see Harris & Todaro 1970 and Ghatak et al. 1996 for a survey of this literature) which considers rural-urban migration. In this model, an expected higher wage in the urban sector will lead to immigration from the rural sector. Immigration and unemployment will coexist as long as the expected urban wage is higher than the rural wage. In these models, the minimum wage is set exogenously by the government and is not influenced by the existing migration. To reduce unemployment, the government either has to pay wage subsidies or introduce migration barriers. Therefore several authors have focused on the effects of immigration on labour markets where unions dominate the wage-setting behaviour. In the context of the Harris-Todaro model, Calvo (1978) extends this framework by allowing unions to negotiate

wages with firms. But he still needs the migration barrier to increase native welfare.[16]

In order to incorporate institutional features characterising German labour markets, Schmidt et al. (1994) and Fuest and Thum (2000) endogenise the wage by introducing minimum wage setting by a monopoly union or efficient bargaining. Schmidt et al. (1994) examine the impact of low-skilled mass migration on natives (high and low skilled) who are organised by a monopoly union. As in Borjas, the technology is a constant return to scale production with three inputs: capital, low- and high-skilled labour. The assumption is that immigrants are substitutes in production for low-skilled natives, but complements to highly skilled natives. Immigrants do not bring any capital with them and they are not included in the union's objective function. The monopoly union sets the wages of low-skilled workers while employment is determined by firms. Both groups receive unemployment benefits which are financed by income and capital taxes. The union maximises the wage earnings of natives including unemployment benefits and negotiated wages. The objective function of the union is the sum of the wage bill of skilled and low-skilled workers and unemployment benefits. The effects of immigration in the case of a monopoly union are unclear: low-skilled immigration leads to replacement of low-skilled natives and to higher unemployment benefit payments by the government. But unions may negotiate lower wages to offset the replacement effect, leading to higher low-skilled native employment and higher wages of highly skilled natives. Still, the result depends largely on the substitutability/complementarity relation between the three inputs, the employment fraction held by natives or the consideration of immigrants in the union's objective function.

Fuest & Thum (2000) consider an efficient-bargaining model concentrating on firm-wide wage negotiations.[17] The small open economy in their model has two sectors: a unionised and a competitive sector, where the technologies with two inputs – capital and labour – exhibit decreasing returns to scale. Immigrants work with a certain probability in the unionised sector and they bring no capital with them. Instead, all firms are owned by natives. The general effect of immigration is that it raises employment in the unionised sector because the reservation wage in the competitive sector declines. A declining reservation wage leads to a weaker position of unions in the wage bargaining process and therefore lowers wages in the unionised sector resulting in higher employment in the unionised sector. Unionisation and immigration then have two opposite effects on natives' welfare. The positive effect is the employment effect shown above; the negative effect is that immigrants are paid above their marginal product if they work in the unionised sector. The welfare effect of immigration largely depends on

the wage elasticities of labour demand in the two sectors. If these elasticities are identical, both effects cancel out and we get the same result as for competitive labour markets. If the elasticity of labour demand is higher in the unionised sector then the overall welfare effect is positive. The employment effect in the unionised sector overcompensates the negative effect. If the elasticity of labour demand is higher in the competitive sector, only large and sustained immigration flows are beneficial. Immigrants are driving down wages, but natives overcompensate the wage losses by capital-earning gains.

As in the models for a competitive economy, the introduction of an endogenous labour supply through an educational decision of the native individual will change the existing results. Razin and Sadka (1995) present a model of endogenous human-capital formation where immigration has a negative effect on native welfare. Fuest and Thum (2001) extend their previous model to discuss the effects of immigration on educational decisions and the respective labour market outcomes of natives. In their model, natives' welfare increases with a certain amount of immigration. Mass migration has positive effects on the welfare of natives as it increases the number of skilled natives but a restrictive immigration policy (a low number of immigrants) will have a decreasing effect on natives' welfare. Furthermore, Lumpe and Weigert (2004) can show that immigration may have an increasing effect on wage inequality if we consider labour market rigidities in combination with an endogenous labour supply.

Besides minimum wage legislation or union wage setting, labour market institutions have been applied to the analysis of immigration such as labour contracts, efficiency wages and search frictions. Labour contracts have been introduced by Ethier (1985) to model temporary migration in an international trade model. Müller (2003) establishes a dynamic efficiency wage model with a dual labour market in specific factors; while immigrants differ only in their positive probability to return to their home country from natives, he can show that immigrants are discriminated against by not receiving the good jobs. In contrast, natives suffer from higher unemployment. Native welfare increases with the degree of sectoral segregation. The same way of modelling the differences between immigrants and natives has been used in a search-theoretic model by Lumpe and Weigert (2007). They demonstrate that an underinvestment in human capital by natives can be solved by a skill-selective immigration policy and therefore leads to Pareto-improving welfare of natives. In combination with education subsidies, even a Pareto-optimal welfare level can be achieved. However, Ortega (2000) was the first to introduce immigration in a search-theoretic model with two countries. In this setting, immigrants, natives and firms gain from migration.

Summarising the theoretical effect of immigration on labour markets and native welfare, we can conclude that there is no clear-cut effect. The models of competitive labour markets emphasise a positive welfare effect of immigration as well as a part of the literature which concentrates on union wage setting. Furthermore some studies suggest that immigration might increase native human-capital investments. Trade theorists, however, still argue this positive result since only negative, or no, effects (for competitive labour markets) can be seen. Obviously, the US and Germany differ not only in their labour markets but in the design, structure and generosity of their social welfare systems as well. The large social welfare systems in Continental European countries might be another source of positive or negative effects of immigration on social welfare.[18] Therefore the literature cited in this survey tells only part of the story.

4 Empirical evidence

In contrast to the theoretical literature, the empirical studies focus on the distributional aspects of immigration, such as the impact of immigration on wages or employment of natives, and do not concentrate on a welfare analysis of immigration. Interestingly, while the theoretical literature can predict clear-cut results on the distributional impact of immigration but can not predict these clear results for the impact on native welfare, the empirical studies address the distributional impact. Furthermore, no major differences can be found concerning the estimates for either competitive or rigid labour markets. There are three major results for the impact of immigration on native wages and employment. First, the studies by Card (2005) and adherents find only a modest negative impact of immigration on natives' wages and employment which can be neglected. Second, Borjas (2003) and adherents find a significant negative impact and third, Ottaviano and Peri (2005) and Peri (2007) find a positive impact: so, everything is possible. In the following, we will discuss the different methods used and show their (dis-)advantages.

4.1 Local labour market approaches

We will start with the local labour market approaches, as they were the first empirical studies that were conducted on the effects of immigration on native wages and employment. These studies measure the impact of immigration on wages and employment by utilising cross-sectional data from cities or counties (e.g. the SMSA in the US). They use labour markets with lower immigration rates as counterfactual to the

labour markets with high immigration rates. Thus, they regress wages or employment measures of natives on the immigrant densities in these labour markets. Their results show a more or less negligible impact of immigration but the evaluation of local labour markets has been criticised for three different reasons:

(1) The location choice of immigrants is endogenous. The choice of immigrants may be influenced by permanent region-specific effects in a way that the historic settlement pattern induces chain migration of following immigrant cohorts. Therefore immigration density and economic outcomes are correlated. A second reason for an endogenous location choice of immigrants is that immigrants are attracted by local labour markets with higher wages caused by local demand shocks. This would lead to a downward biased estimate of the effects of immigration. The first problem of the permanent region-specific effects can be solved by taking differences-in-differences and thereby removing the region-specific effect. Thus, the empirical studies will relate changes in immigrant densities to wages over two points in time. The second problem of local demand shocks is solved by using historical settlement patterns as instrument variable because pre-existing immigration patterns should be uncorrelated with recent local demand shocks. Instead of using historical settlement patterns, we could also concentrate on cases where the allocation is exogenous.

(2) Due to immigration, natives may tend to migrate out of local labour markets – leaving the relative labour supply constant. The empirical analysis cannot identify the effect of immigration on wages, which leads to an underestimation of the effect of immigration. The relevance of out-migration is not clear: Borjas (1999, 2003) regards it as serious problem while Card and DiNardo (2000) and Card (2001) find no out-migration. Possibilities for addressing these problems are either a two-stage estimation in which the first stage demonstrates that immigration does not lead to out-migration, or including out-migration into the regression as an omitted variable. These omitted variables have to be instrumented due to the correlation.

(3) Intercity trade and the induced Rybczynski theorem or factor price equalisation leave no effect on immigration if it is measured over local labour markets. The local economies may adjust by their output mix instead by reducing employment and/or wages but the economy as a whole should have a downward-sloping labour demand function.

The first study which used local labour market variations was Grossman (1982). She estimated a trans-log production function to derive elasticities of substitution between immigrants and natives. The measured impact of a 10 per cent increase in the number of immigrants would result in a 1 per cent decrease of native wages. However, natives are not separated by skills. Borjas (1987) extends the analysis of Gross-

man by introducing different native groups (blacks, Hispanics, white, etc.). Furthermore he uses a Generalized Leontief production function and a different data set. He obtains the same result as Grossman for native earnings. Altonji and Card (1991) include instrument variables (the stock of immigrants) in their cross-section regression to control for an endogenous location choice of immigrants and estimate the effects of immigration on earnings and employment of minority groups and low-skilled natives. They find that a 1 per cent increase in the fraction of immigrants reduces employment opportunities of the respective groups by 0.25 per cent. Wages are reduced by this increase in immigration by 1.2 per cent. To get an upper bound of the impact on earnings, LaLonde and Topel (1991) estimate the effect of newly arriving immigration on older immigrants. They use the different cohorts of immigrants as different inputs and conclude that the impact on native wages is unimportant but newly arriving immigrants reduce wages of older immigrants. Taking into account the different labour market institutions, we would expect that the results may differ for the German labour market. Pischke and Velling (1997) apply the framework of Altonji and Card (1991) to West Germany. They confirm the same effects on native employment and wages as the US studies and a previous study of Velling (1995) for Germany. In contrast to these two studies are the results from DeNew and Zimmermann (1994) that show a detrimental effect of immigration on wages and employment. Pischke and Velling attribute these results of DeNew and Zimmermann to the different period examined. DeNew and Zimmermann used data from the 1970s to the beginning 1980s where a recession has taken place in Germany which has mostly hit the guest-workers concentrated industries.

Card (2001), again for the US, extends the existing models by including skill heterogeneity to measure the impact of the relative supplies of immigrants. He defines six occupational groups which are used as labour inputs in the underlying model. He corrects for local demand shocks by calculating the expected inflow rate of immigrants in the respective occupations on the basis of historical settlement patterns. Furthermore he controls for possible out-migration of natives due to immigration. Still, the results of the previous studies are proved robust. Employment and wages fall by about 1 per cent with an increase of 10 per cent in the population share of a respective occupational group, only in high immigration areas (like Los Angeles and Miami) the impact might reach up to 3 per cent.

Controlling for local demand shocks and region-specific effects can be done most effectively in natural experiment settings where the allocation of immigrants is exogenous. Card (1990) examines the impact of the Mariel boatlift immigration from Cuba to Miami in 1980 which

led rose the labour force of Miami by 7 per cent. He compares the impact on wages and employment on different minority groups as well as native whites in Miami with five other cities in the US which are comparable to Miami concerning the industry structure. The resulting impact on wages and employment is negligible. Glitz (2006) uses the immigration of ethnic Germans into Germany in the late 1990s as quasi-experiments because these immigrants have been allocated exogenously over Germany by the government to guarantee an even distribution. But, like Card (1990), Glitz finds no negative impact of immigration on the labour market prospects of natives.[19]

The local labour market analysis by Lewis (2003, 2004) tries to explain the nonexistent effect on wages and employment by a change either in the industry structure of local labour markets or by within technological change of firms in these local labour markets. Relying on the theoretical frameworks of Acemoglu (1998) and Beaudry and Green (2003), an increased supply of low-skilled labour will lead to the adaptation of different technologies to meet the local skill mix. Therefore the technical change in areas with high low-skilled immigration has slowed down. He finds no effect of immigration on the industry structure or unemployment but a significant effect on the technology choice of firms. He concludes that the adaptation of firms to the existing input mix in local labour markets leads to a constant relative wage and employment.

All of the cross-sectional local labour market studies find a significant negative but only modest effect of immigration on wages and employment opportunities. Applying Instrumental Variables methods generates stronger effects, and differencing over occupational choice or skills leads, not surprisingly, to stronger effects among low-skilled natives. However, labour market institutions do not seem to matter as the results for Germany suggest.[20]

4.2 National labour markets

4.2.1 Wage inequality

In contrast to the adherents of the local labour market studies, other authors argue that the empirical analysis should concentrate on national labour markets to avoid the problem of out-migration. A first strand of literature constructs the counterfactual by simulation of an economy without immigrants. These studies are mostly concerned with the impact of immigration and trade on wage inequality in the US. This simulation method is based on pre-estimated parameters as the elasticity of substitution between highly skilled and low-skilled labour. Therefore the underlying structural economic model (e.g. a CES production function) may influence the resulting estimates: different

elasticities of substitution drive the results on the impact of immigration on wages and employment. Further problems of this method might be the assumption of perfect substitutability of immigrants and natives within each skill group and the right allocation of immigrants to skill groups.[21]

Borjas et al. (1992) have introduced this method (they call it the factor-proportion model) and find as result that immigration has not had any negative impact on college/high school wage differentials but has harmed the high school dropout earnings. The induced changes from trade and immigration in the relative skill composition of the US explain about 40 per cent of the relative wage decline of high school dropouts where immigration is the main source of the wage decline. Borjas et al. (1996) compare the local labour market approach with their simulation methods. They find that out-migration and industry structure assimilation lead to the non-negative effects of the local labour market approach, while their approach shows the detrimental effect of immigration and trade on low-skilled natives. Borjas et al. (1997) analyse the impact of immigration in a simulation-based model from 1960 to 1990. They show that a large displacement effect of natives exists due to immigration and get the same findings as in their analysis of 1996 when researching the impact on wages and employment.

4.2.2 Skill-experience-cell approach

Borjas (2003) extends these models by including labour market experience differences between the respective immigrant groups because immigrants might not be perfect substitutes in the skill groups. Immigrants are then allocated among different skill-experience groups and within these groups immigrants are perfect substitutes to natives. Thus, native cell specific wages or employment measures are regressed on the immigrant share in the respective cells. Obviously, problems arise if immigrants select into cells with better economic conditions. Another problem is the correct allocation of immigrants into the cells. Thereby, for an average native worker, immigration leads to a fall in wages of 3.2 per cent by an increase of 10 per cent in the immigrant share. The most detrimental effect has been on low-skilled natives. The impact on wages for highly skilled labour, however, is only modest. Borjas (2005) implements a further critique – native out-migration – in a local labour model and compares it with the estimates of his national labour markets model. He claims that native out-migration explains 40 to 60 per cent of the existing wage impact differences concerning immigration, which stands in contrast to the evidence found by Card (2001).

Relying on the framework of Borjas (2003), Ottaviano and Peri (2005) focus on the impact on the average native worker instead of only the low-skilled worker. They extend the model of Borjas (2003) in which they allow for imperfect substitutability of natives and immigrants within the skill-experience cells. Furthermore they allow for a certain degree of capital mobility, while in the model of Borjas (2003), capital is always assumed to be perfectly immobile. They find immigration to be beneficial, because the average wage increased by 3 to 4 per cent for native workers due to immigration in the 1990s. Thereby, wages of low-skilled workers decreased by 1 per cent but those of highly skilled workers increased by 4 per cent. Peri (2007) extends this framework by including native out-migration and still receives a possible impact of immigration. Orrenius and Zavodny (2006) combine the empirical strategies of Borjas (2003) and Card (2001) and use a new data set that allows a separation of new arriving immigrants from already assimilated immigrants. They generate results on occupational wages comparable to Peri (2007): the impact on the occupational wages of highly and middle-skilled workers is positive, while the impact on occupational wages low-skilled occupational workers is negative but small.

4.3 Summary

Card (2005) reviews the literature and critique on the local labour market approach and concludes that neither demand shocks, intercity trade nor out-migration of natives are responsible for the nonexisting impact of immigration in local labour markets. He even argues that even in the time series approaches of Borjas, the effect of immigration should be modest: 'While the counterfactual is unknown, it is hard to argue that the aggregate time series evidence points to a negative impact of immigration unless one starts from that position apriori' (Card 2005: 321). This result is also confirmed by new evidence of Lewis (2003) and Ottaviano and Peri (2005) who find no detrimental or even a positive effect on native wages and employment.

5 Conclusions

In this survey we have shown that the immigrant population in the US and Germany is often characterised by higher unemployment rates and lower wages. The only large difference lies in the bimodality of skills among the immigrants of the US. Especially the Asian community supplies a large number of highly skilled workers which is absent in Germany.

From a theoretical point of view, the impact of immigration generates robust results concerning the distributional impact of immigration but is undecided on the welfare implications of immigration. In competitive labour markets, immigration is always beneficial if the economy is closed. For an open economy the results might reverse rather sharply. In rigid labour markets, the impact of immigration depends on the existing labour market institutions. An exogenous set minimum wage leads to a negative impact of immigration while unions may change their wage setting behaviour due to immigration and ask for lower wages. A further indirect but important impact of immigration might be on the educational attainment of natives.

The mixed results predicted by the theoretical literature carry over to the empirical studies. But in the empirical literature, the debate is on the distributional aspects of immigration and not on the welfare effects of immigration. Due to the different methods used, the impact of immigration on native wages and employment found by these studies differs largely. The impact on average wages is either small or positive (up to 4 per cent) but wages of native, low-skilled workers are decreased by either a modest 1 per cent or up to 8 per cent. Still, it is interesting that neither the different labour market institutions nor the different immigration concerning skills lead to different effects on native wages and employment for the US and Germany.

In general, the economic literature argues that the impact of immigration on the labour market, even if it would be negative, is quite small. Therefore we may summarise that immigrants will not replace native workers and do not lower wages – even independent from existing labour market institutions.

Notes

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2 Obviously, there are already several well-known surveys of this literature such as Greenwood & McDowell (1986); Borjas (1994); Friedberg & Hunt (1995); Zimmermann (1995) and LaLonde & Topel (1996), which cover parts of this survey.

3 For instance, we are only concentrating on the effects of legal immigration. Taking into account illegal immigrants could generate more negative or positive effects of immigration on native welfare (see Yoshida 2000 and Yoshida & Woodland 2005 for an overview). Another important strand of the literature focuses on the impact of immigration on the welfare system (taxes and pensions) and thus the provision and distribution of welfare transfers such as unemployment benefits, as well as on the political decision making in the host country (see Boeri et al. 2002; Razin & Sadka 2005; Kemnitz 2006 for recent overviews). Furthermore, there is a growing

literature in economics that concentrates on native attitudes towards immigrants (see Mayda 2006; O'Rourke & Sinnott 2006; Dustmann & Preston 2006, among others).

4 See Longhi et al. (2005) for an overview of the large cross-country and cross-study variance.

5 See Borjas (1994). The differences between the ethnic communities can be also shown by their school enrollment rates (see Hirschman 2001).

6 Most of the following exposition is based on Trefler (1997) or Feenstra (2004).

7 See Dixit and Norman (1980) and Woodland (1982) as classic references.

8 We are not considering here the debate in international trade theory on trade liberalisation leading to less factor mobility. See Venables (1999) for an survey on this topic.

9 Most of the following analysis is based in the seminal paper of Berry and Soligo (1969). They show that the first immigrant who arrives in the host country receives her marginal product and has no impact on native welfare. But the following immigrants still receive their marginal product but lower the wage for each intramarginal immigrant. Generalisations of the model of Berry and Soligo are Wong (1986) and Quibria (1988). The first result of the impact of a marginal immigrant was introduced by Grubel and Scott (1966).

10 See Borjas (1999) for a detailed derivation of this result.

11 The picture of the benefits of immigration may be different if the immigration surplus would include any transfers such as social service payments. The gains or losses from the use of transfer payments are also debated in the literature (see Borjas 1994 for an overview on the literature and Lofstrom & Bean 2002 on the recent development).

12 We could also say that capital supply is totally inelastic.

13 See Dornbusch et al. (1980) for a model with two factors and a continuum of goods.

14 Findlay (1982) was the first to analyse the impact of immigration using a Ricardian model.

15 Meckl (2006) shows that the results of Davis (1998) change with the introduction of native educational decisions and labour heterogeneity, which results in a different minimum wage policy.

16 Bhagwati and Srinivasan (1974) and Corden and Findlay (1975) show policy measures which allow for free migration in this type of model.

17 This type of union behaviour is mostly known from Scandinavian countries and contrasts with more or less existing nationwide unions in countries like France or Germany. In particular, full employment does not match with German labour market properties.

18 See Razin and Sadka (1995) and Wellisch and Walz (1998) among others.

19 Hunt (1992) uses the immigrant inflows of Algerian repatriates after the Algerian civil war as natural experiment while Friedberg (2001) concentrates on the Russian immigration towards Israel. Both studies analyse the impact of immigration inflows on national labour markets.

20 In contrast, Angrist and Kugler (2003) find a negative effect of immigration in combination with less flexible labour market institutions.

21 For example, highly skilled immigrants might work in low-skilled occupations in the first years after their arrival because of a lack of language proficiency.

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Investigating the Economic Impact of Immigration on the Host Country

The Case of Norway

Mete Feridun

1 Introduction

International migration and the role that it plays in the economies of the originating and receiving countries has frequently been a topic of interest. To our knowledge, such a study does not exist in the literature particularly for Norway. The present study aims at filling this gap in the literature through investigating the nature of the causal relationship between immigration and two macroeconomic indicators, GDP per capita and unemployment, using Granger causality tests based on Norwegian data during the period between 1983 and 2003.

Literature on the economic impact of immigration focuses primarily on the effects of immigration on the unemployment of domestic workers. Marr and Siklos (1994, 1995), Konya (2000), Akbari and DeVoretz (1992), Withers and Pope (1985), Winegarden and Khor (1991), Gross (1997), Marr (1973), and Altonji and Card (1991) studied how immigration affects the unemployment of domestic workers in various Western countries and found mixed results. The effects of immigration on the income of the host country citizens have also been widely investigated. Laryea (1998a, 1998b), Gruen (1986), Jolley (1971), Easton (1990), Grossman (1982), and Feridun (2004, 2005) have investigated the nature of the causal relationship between immigration and income in many countries using various econometric methods. Their results mostly showed that immigration has a positive impact on the income of the host country.

As is the case for many developed nations, Norway faces the challenges of an ageing population. The combination of the demographic effects of the baby booms that marked the immediate post war period, the fall in fertility rates that began from the late 1960s, and longer life expectancy have led to a very marked acceleration of the ageing process of the population in Norway. This has serious implications for the sustainability of the pension and benefit systems and for labour market

equilibrium. With more elderly people and fewer young people, Norway is expected to experience a decline in the labour supply within the next few decades. This will have to be accompanied by an increasing number of people of foreign origin entering the labour market. Inflow of aliens into the country in the last decade has made immigration and immigration policy a major public issue in Norway. Norwegian people are concerned that immigration reduces employment opportunities for the existing workforce, depresses wage rates in already low-wage labour markets, and financially strains taxpayers via their receipt of transfer payments and use of social service programs. In this respect, it is essential to assess the impact of foreign workers on GDP per capita and unemployment in order to assist policymakers in designing policies regarding immigration.

This paper is structured as follows. The next section provides a theoretical framework through which immigration may have an impact on the economy of the host countries. Section three reviews the data and presents the results obtained. The last section provides conclusions and policy implications that emerge from the study.

2 Theoretical framework

This section presents the theoretical framework through which immigration may affect the labour market in the host country. According to the traditional neoclassical model of labour markets, effects of immigration on the income of the host country citizens can be studied in two ways, namely supply side effects and demand side effects. In the supply side effects, inputs, i.e. foreign labour force and domestic labour force, can be either substitutes or complements. When two inputs are substitutes in production, an increase in the supply of an input will decrease the demand for its substitute.

An increase in the labour supply through increased immigration in a given labour market will lead to an increased competition for jobs among immigrants. This would reduce the market wage for immigrants. Depending upon their skill requirements, employers are likely to substitute immigrant labour for the native worker since the former is cheaper. This competition for jobs in the local labour market between natives and immigrants would reduce the earnings of natives. If variation in the number of immigrants relative to the native-born workers across selected labour market demonstrates that a higher ratio of foreign-born to native-born workers is associated with a lower wage rate of native born, then immigrants and native born are substitutable labour inputs in production. In this case, foreign-born workers would affect the earnings and job opportunities of native workers adversely.

When immigrants and native workers are perfect substitutes, they compete for jobs in the same labour market. The effect of immigrants entering the labour market is a shift of the labour supply curve to the right. The market wage rate decreases. In the case of complementary inputs, immigration flows could lead to increased wages for native workers. If there are skill shortages in the host country and immigrants relieve these bottlenecks, it would expand job opportunities in general, resulting in an increased demand for labour and eventually leading to higher wages of native-born workers. In this case immigrants and native workers are employed in two distinct labour markets and they are complementary inputs in production. When they are complements in production, then an increase in the demand for labour can increase the wage rate of indigenous workers. When foreign-born and native-born workers are complements in production, an inflow of foreign-born workers would augment the productivity of native workers. Therefore, the demand for native-born workers goes up. This will cause an increase in the wage rate.

When we study demand side effects, we assume that the product demand is fixed. However, immigration has both demand and supply side effects in goods markets. Immigrants demand goods and services, make expenditures and, therefore, the expenditure generated by the inflow of immigration causes the demand curve for goods and services to shift rightward. This will, in turn, cause an increase in the demand for labour. When both demand and supply effects are present, the net effect on the native would depend on the immigrants' marginal propensity to spend and the chance of getting a job relative to natives. If, for example, immigrants' relative expenditures are less than their relative employment, then the demand for labour will shift to a lesser extent than the supply of labour and therefore some natives will lose their jobs.

The impact of immigration on the unemployment level in the host country can be studied through two perspectives. Some people contend that the employment of immigrants decreases the employment of domestic workers on a one-for-one basis. They argue that a given number of jobs exist in the economy and that if one of these positions is taken by an immigrant, then the specific job is no longer available for a legal resident. At the other extreme it is claimed that immigrants only accept work that resident workers are unwilling to perform and thus take no jobs from native workers. According to McConnell and Brue (2003), immigration does cause some substitution of illegal aliens for domestic workers but the amount of displacement is most likely less than the total employment of immigrants. In light of this theoretical background, this study aims at testing two null hypotheses. The first hypothesis assumes that the immigrants and the native workers are perfect substi-

tutes, and states that immigration will lead to decreased per capita income in the host country. The second hypothesis states that immigration leads to unemployment in the host country.

3 Data and methodology

This study uses data that consists of annual observations spanning the period between 1983 and 2003. All data are obtained from the World Bank World Development Indicators database and were transformed into logarithmic returns in order to achieve mean-reverting relationships, and to make econometric testing procedures valid. Immigration, denoted by IMMG, is measured by the size of foreign or foreign-born residents as a percentage of total population. GDP per capita, denoted by GDP, is calculated as gross domestic product divided by mid-year population. Unemployment, denoted by UNEM, refers to the percentage of the total labour force that is without work but available for and seeking employment.

Table 1 presents the descriptive statistics of the logarithmic transformations of time series data. The measures of skewness and kurtosis as well as the probabilities of the Jarque-Berra test statistic provide evidence in favour of the null hypothesis of a normal distribution for all data sets. In addition, simple correlations are estimated for the first differences of the series for each country and no evidence of correlation was found, as can be seen in table 2.

Table 1 *Descriptive statistics*

	IMMG	UNEM	GDP
Mean	26.6002	35.9001	4.1471
Median	10.3169	4.1132	6.2715
Maximum	18.1591	35.3916	8.8479
Minimum	2.6668	1.9662	2.6216
Std. Dev.	2.8702	1.5368	0.3051
Skewness	0.0226	0.4746	0.0565
Kurtosis	3.3561	3.2092	2.5651
Jarque-Bera	1.7628	2.9719	1.8645
Probability	0.6102	0.4972	0.4859
Sum Squared	15.3002	0.2825	17.3681

Table 2 *Correlation matrix*

	GDP	UNEM	IMMG
GDP	1	0.2465	0.3245
UNEM		1	0.2356
IMMG			1

Table 3 *Augmented Dickey-Fuller unit root test results*

	Test with an intercept		Test with an intercept and trend		Test with no intercept or trend	
	Levels	1st differences	Levels	1st differences	Levels	1st differences
IMMG	2.024	-13.3055	4.324	-14.398	0.4255	-8.579
GDP	2.369	-7.981	3.2775	-8.441	2.967	-12.926
UNEM	2.0355	-6.4745	4.0825	-7.2795	1.518	-11.868
CV* (1%)	-4.0135	-4.6345	-6.3825	-6.4975	-3.151	-3.036
CV (5%)	-3.8755	-4.025	-4.232	-4.324	-2.208	-2.1505

* McKinnon Critical Value; the lag length was determined using Schwartz Information Criteria (SIC)

The first necessary condition to perform Granger causality tests is to study how stationary the times series under consideration is, and to establish the order of integration present. The Augmented Dickey-Fuller (ADF) (1979) unit root test is used in examining how stationary the data series is. It consists of running a regression of the first difference of the series against the series lagged once, lagged difference terms, and optionally, a constant and a time trend. This can be expressed as:

$$(1) \quad \Delta yt = \beta 1yt - 1 + \beta 2\Delta yt - 1 + \beta 3\Delta yt - 2 + \beta 4 + \beta 5t$$

The test for a unit root is conducted on the coefficient of *yt*-1 in the regression. If the coefficient is significantly different from zero, then the hypothesis that *y* contains a unit root is rejected. Rejection of the null hypothesis implies it is stationary. If the calculated ADF statistic is higher than McKinnon's critical value, then the null hypothesis is not rejected and it is concluded that the considered variable is non-stationary, i.e. has at least one unit root. Then, the procedures are re-applied after transforming the series into first differenced form. If the null hypothesis of being non-stationary can be rejected, it can be concluded that the time series is integrated of order one, *I*(1). Table 3 summarises the results of the ADF unit root tests on levels and in first differences of the data. Strong evidence emerges that all the time series are *I*(1).

3.1 Cointegration tests

Next, we perform a cointegration analysis. Cointegration analysis helps to identify long-run economic relationships between two or several variables and to avoid the risk of spurious regression. Cointegration analysis is important because if two non-stationary variables are cointegrated, a VAR model in the first difference is incorrectly specified due to the effect of a common trend. If a cointegration relationship is identified, the model should include residuals from the vectors (lagged one

Table 4 *Johansen cointegration test results*

Null Hypothesis	Trace Statistic	5% Critical Value	Maximum Eigenvalue Statistic	5% Critical Value
$r = 0$	41.4018	48.8802	23.7021	28.6467
$r <= 1$	16.8756	29.7906	13.0011	26.3835
$r <= 2$	5.1168	12.8535	7.7859	14.0712

period) in the dynamic Vector Error Correcting Mechanism (VECM) system. In this stage, the Johansen cointegration test is used to identify the cointegrating relationship among the variables. Within the Johansen multivariate cointegrating framework, the following system is estimated:

$$(2) \quad \Delta z_t = \Pi_1 \Delta z_{t-1} + \ldots + \Pi_{k-1} \Delta z_{t-k-1} + \Pi z_{t-1} + \mu + \eta_t : t = 1, \ldots, T$$

Where Δ is the first difference operator, z denotes vector of variables, η_t ~ niid (0, Σ), μ is a drift parameter, and Π is a $(p \times p)$ matrix of the form $\Pi = \alpha\beta'$, where α and β are both $(p \times r)$ matrices of full rank, with β containing the *r* cointegrating relationships and α carrying the corresponding adjustment coefficients in each of the *r* vectors. The Johansen approach can be used to carry out Granger causality tests as well. In the Johansen framework the first step is the estimation of an unrestricted, closed p*th* order VAR in *k* variables. Johansen (1995) suggests two tests statistics to determine the cointegration rank. These are the trace statistic and the maximum eigenvalue test. Based on the power of the test, the maximum eigenvalue test statistic is often preferred. Table 4 presents results from the Johansen cointegration test among the data sets. Neither maximum eigenvalue nor trace tests rejects the null hypothesis of no cointegration at the 5 per cent level.

A linear deterministic trend is assumed; *r* is the number of cointegrating vectors under the null hypothesis.

3.2 Granger causality tests

According to Granger (1969), *Y* is said to G*ranger-cause X* if and only if *X* is predicted better by using the past values of *Y* than by not doing so with the past values of *X* being used in either case. In short, if a scalar *Y* can help to forecast another scalar *X*, then we say that *Y* Granger-causes *X*. If *Y* causes *X* and *X* does not cause *Y*, it is said that unidirectional causality exists from *Y* to *X*. If *Y* does not cause *X* and *X* does not cause *Y*, then *X* and *Y* are statistically independent. If *Y* causes *X* and *X* causes *Y*, it is said that feedback exists between *X* and *Y*. Essentially, Granger's definition of causality is framed in terms of predictability.

Granger (1969) originally suggested the Granger test. To implement the Granger test, we assume a particular autoregressive lag length k (*or* p) and estimate equations (3) and (4) by OLS:

$$(3) \quad X_t = \lambda_1 + \sum_{i=1}^{k} a_{1i} X_{t-i} + \sum_{j=1}^{k} b_{1j} Y_{t-j} + \mu_{1t}$$

$$(4) \quad Y_t = \lambda_2 + \sum_{i=1}^{p} a_{2i} X_{t-i} + \sum_{j=1}^{p} b_{2j} Y_{t-j} + \mu_{2t}$$

F test is carried out for the null hypothesis of no Granger causality $H_0 : b_{i1} = b_{i2} = \cdots = b_{ik} = 0, \mathrm{i} = 1, 2$ where F statistic is the Wald statistic for the null hypothesis. If the F statistic is greater than a certain critical value for an F distribution, then we reject the null hypothesis that Y does not Granger-cause X (equation (1)), which means Y Granger-causes X.

A time series with stable mean value and standard deviation is called a stationary series. If d differences have to be made to produce a stationary process, then it can be defined as integrated of order d. Granger (1983) proposed the concept of cointegration, and Engle and Granger (1987) made further analysis. If several variables are all I(d) series, their linear combination may be cointegrated, that is, their linear combination may be stationary. Although the variables may drift away from equilibrium for a while, economic forces may be expected to act so as to restore equilibrium, thus, they tend to move together in the long run, irrespective of short run dynamics. The definition of the Granger causality is based on the hypothesis that X and Y are stationary or $I(0)$ time series. Therefore, we can not apply the fundamental Granger method for variables of $I(1)$.

The classical approach to dealing with integrated variables is to difference them to make them stationary. Hassapis et al. (1999) show that in the absence of cointegration, the direction of causality can be decided upon via standard F-tests in the first differenced VAR. The VAR in the first difference can be written as:

$$(5) \quad \Delta X_t = \lambda_1 + \sum_{i=1}^{k} a_{1i} \Delta X_{t-i} + \sum_{j=1}^{k} b_{1j} \Delta Y_{t-j} + \mu_{1t}$$

$$(6) \quad \Delta Y_t = \lambda_2 + \sum_{i=1}^{p} a_{2i} \Delta X_{t-i} + \sum_{j=1}^{p} b_{2j} \Delta Y_{t-j} + \mu_{2t}$$

Table 5 *Granger causality test results*

	F - Statistics			
Null Hypothesis	**Lag 1**	**Lag 2**	**Lag 3**	**Lag 4**
Immigration does not Granger-cause GDP per capita	67.9722**	3.2103	0.0042	0.9223
GDP per capita does not Granger-cause immigration	1.2921	1.4312	0.5511	0.4227
Immigration does not Granger-cause unemployment	1.7281	1.2121	1.3334	0.5414
Unemployment does not Granger-cause immigration	1.0012	0.2992	1.5316	3.8132

**Reject the null hypothesis at the 5 per cent level

Since, maximum eigenvalue and trace tests do not reject the null hypothesis of no cointegration at the 5 per cent level, the aforementioned VAR method can be used. Table 5 shows the results of these regressions.

Results of a Granger causality test show that the null hypothesis in which immigration does not Granger-cause GDP per capita is rejected in a one-year lag, at the 5 per cent level. Results show no evidence of reverse causality. On the other hand, the null hypothesis in which immigration does not Granger-cause unemployment is not rejected in any lag at the 5 per cent level. Again, results show no evidence of reverse causation either.

4 Conclusions and policy implications

The aim of this paper is to assess the impact immigration has on economic development and unemployment in Norway. The results on the unit root test indicate that all the series are non-stationary and in $I(1)$ process. The Johansen cointegration test reveals that there is no cointegration among the data sets. The Granger causality test shows that when the level of immigration increases, GDP per capita also increases. It has also been found that immigration has no impact on unemployment, and vice versa.

A number of policy implications emerge from the study. As the analysis has shown, the future development of the Norwegian society will depend, among other things, on whether the country is capable of securing a successful integration of foreigners. This includes not only the foreigners currently residing in the country but also those that are expected to immigrate in the future. A number of actions should be ta-

ken in order to cope with the expected decline of the labour force. For instance, Norway may choose to mobilise the latent labour supply among various target groups such as the ageing population, inactive and unemployed youth, inactive adults, and inactive and unemployed foreign-born residents. As evident from their positive impact on GDP per capita growth, immigrants and their children will be a great asset to Norway in the future. Therefore, taking care of immigrants' basic requirements and making Norway attractive to foreign employees must be a priority for policymakers. Policies should be developed to educate domestic societies to tolerate the temporary and permanent presence of an increasing number of people with foreign backgrounds. However, authorities should determine how many and what type of immigrants are needed. Norway has to define clear goals and guidelines for their immigration and integration policies. In this respect, restricting the immigration of people with low qualifications to prevent integration difficulties and the negative impact on the economy can be considered as a policy option.

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The 'Exit Option' of Labour Migration from East to West Germany

Individual and Contextual Determinants of Geographic Mobility of Unemployed Workers[1]

Michael Windzio

1 Introduction

There is no denying that the labour market situation in East Germany since reunification has badly disappointed those who expected the rapid development of a flourishing economy. However, in addition to the high unemployment rates, poverty and turbulent courses of life that are prevalent in many post-socialist countries, there is another specific factor that complicates the situation and is exclusive to the German transition: the population in both East and West Germany is German. Consequently, objective regional disparities between East and West lead to relative deprivation. At the beginning of 2005, the unemployment rate in East Germany was twice as high as in the West, so labour market perspectives were much better in the West than in the East. Today, dissatisfaction with the East German labour market conditions is widespread. Facing such discrepancies, the 'exit option' in terms of expanding one's job search to West German labour markets might be a sensible response. The concept of the 'exit option' goes back to Albert O. Hirschman, who argued that in economic transactions, actors who notice the slackness of their commercial partners choose the exit option and search for substitutes.

In the present study, the question of how the 'exit' from East German labour markets depends on individual and contextual factors will be investigated. It will be shown that geographic labour mobility of unemployed workers from the East to the West is selective with respect to individual resources like education and (previous) income. Moreover, an approximate measure of social networks derived from McGinnis' cumulative inertia axiom indicates that embeddedness into social networks governs the mobility process. At the contextual level of 76 East German regions (excluding Berlin), regional unemployment rates and spatial distances to the East-West border have significant impacts. The

same is true for unemployment compensation, which decreases the mobility rate both at the individual and at the contextual level: at the individual level, receiving unemployment compensation reduces mobility from the East to the West. In addition to the effect at the individual level, the proportion of workforce receiving unemployment compensation at the regional level decreases geographic mobility as well. This institutional 'bonding effect' stands in contrast to the mobility-generating impact of high regional unemployment rates. By predicting survivor functions for different covariate settings, the quantitative relevance of the 'push-effect' due to high unemployment rates and the institutional bonding effect of institutions of unemployment compensation will be evaluated.

Finally, it will be argued that the explanation for the institutional bonding effect at the macro level is complex, because the impact of macro-level characteristics on individual level outcomes is mediated by subjective definitions of the situation. Without qualitative knowledge on the 'frames' that provide the cognitive foundation of these definitions, a satisfying explanation is impossible. Nevertheless, some attempts at explaining the institutional context-effect will be made using a sociological perspective.

2 Geographic mobility from East to West: concepts in economics and sociology

In economics, neo-classical concepts consider geographic labour mobility to be a result of spatial disequilibria in income or in the distribution of labour demand and supply (Mincer 1978; Sjaastad 1962; Franz 1984: 58; Lowry 1966). From the individual's perspective, push- and pull factors are evaluated and a decision in favour of moving is made in order to maximise net utility. Accordingly, labour markets are regarded as self-regulating systems: the deterioration of income and employment chances results in an outflow of labour and spatial movements flow from *bad* into *good* areas.

The sociological perspective is not in a sharp contrast to the neo-classical approach, but its focus is on a broader range of determinants: geographic mobility of labour is supposed to be governed by social institutions of welfare, especially different forms of unemployment compensation, social networks, but also by the distance to prospective destinations. Definitely, the same is true for geographic mobility following unemployment, that is, of unemployed workers.

Cadwallader (1989) developed a formal model that guides the explanation of why people decide to move. In sociology, similar models have been proposed by Coleman (1986) and Esser (1991). At the macro le-

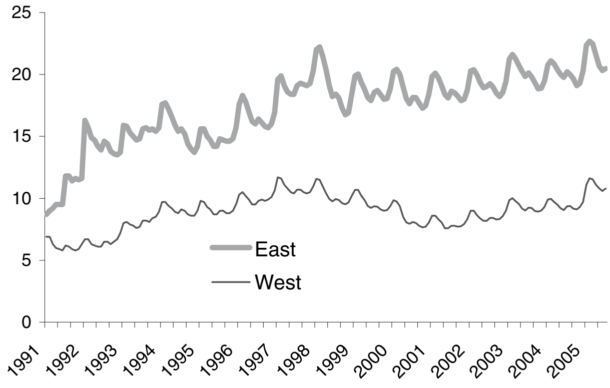


Figure 1 *Monthly unemployment rates in East and West Germany (in percentages)*
Source: Statistisches Bundesamt, www.destatis.de

vel, characteristics of regional contexts are interpreted by individual actors. In the following empirical analysis, such contextual effects are local labour market conditions, social networks, welfare institutions in terms of unemployment benefits and distances to the prospective destination. At the micro level, gender and individual resources are factors framing the perception of these conditions, as well as the appreciation of costs and benefits of the alternatives to move or to stay in the given situation.

If individual actors have implemented their decisions to move at the micro level, individual actions become aggregated at the macro level, where they appear in the shape of proportions of outflow mobility in an area during a certain period in time. Labour market conditions might turn out to be important determinants of mobility from East to West Germany. Immediately after the reunification, the East German unemployment rate increased from 8.7 per cent in January 1991 to 16 per cent in January 1992. Afterwards, it further increased to 20.4 per cent in April 1998 and 22.4 per cent in January 2005 (fig. 1). In figure 1, during the period from 1999 to 2003, both lines seem to diverge further because of a slight decrease in unemployment in the West, whereas unemployment rates steadily increased in the East. In summer 2005, the unemployment rate in the East was 20.5 per cent, which was approximately twice as much as in the western part (10.8 per cent)! According to the formal model shown in figure 2, East German labour market conditions should generate high rates of geographic mobility from the East to the West. This might be especially true for unemployed people who are looking for a job because under unfavourable market conditions the expected utility of a decision to stay is comparatively low.

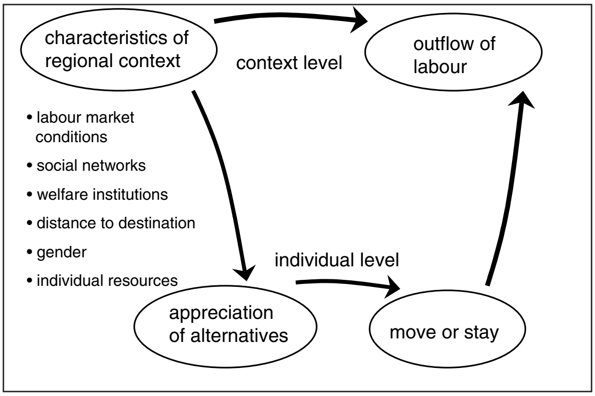


Figure 2 *The decision to move*
Source: author

In his famous book on responses to decline in firms and organisations, Hirschman (1970) argued that customers will choose between three alternatives if they notice that their commercial partners have become 'slack': either they decide in favour of the 'voice' option, in favour of the 'passivity' option, or in favour of the 'exit' option. In the first case, they express their discontentment with intent to induce the organisation to detect and to eliminate causes of slackness. Indeed, in 2004 and 2005 there were some protest marches in East Germany,[2] but no continuous social movement against labour market policies has emerged. In the second case of passivity, customers accept their bad situation and continue economic transactions, even if the quality of goods or services has declined.

In the last case, exit means that customers search for alternative commercial partners. In the case of labour markets, unemployed workers can change the regional context. Consequently, such a response to decline implies out-migration or at least an extension of job search behaviour to the western part of Germany and the preparedness to move. Needless to say, any of these alternatives are motivated by more or less rational reasoning. Even the passivity option can be considered an attempt to avoid transaction costs.

Today, the East German unemployment rate is nearly twice as high as in the West. This difference suggests that, aside from objective deprivation, there is also relative deprivation: in the long run, unemployed people in the East legitimately claim the same labour market conditions as people in the West do. Hence, the German situation of post-socialist transition is exceptional since the East German population has a clear standard of comparison, which is the West German society (Schmitt, Maes & Widamann 2003: 10). In other words, it is a situation of fraternal deprivation. Runciman (1966) drew the distinction

between egoistic and fraternal deprivation in order to link relative deprivation with the concept of social justice. In a recent study, Schmitt, Maes and Widaman (2003) applied the concept to the situation of the German reunification and they found negative effects of fraternal deprivation on life satisfaction and mental health. The authors disagree with the idea that egoistic deprivation leads to stress and damaged self-esteem exclusively, whereas fraternal deprivation primarily leads to protest. On the other hand, theories in social psychology assume that 'voice', expressed in terms of collective action, becomes more likely if group membership is a salient property as well as an aspect of the person's identity (Schmitt, Maes & Widaman 2003: 5). But if voice does not show any effect, and if fraternal deprivation results in stress, the exit option described by Hirschman should become more likely.

In migration research, Hirschman's typology of responses to commercial partners who show slackness has been applied in a study using data from the GSOEP (Kecskes 1994, see Franz 1984: 85). The concept's applicability was rather obvious because migration models developed by Wolpert (1975) and Brown and Moore (1971) describe a very similar mechanism. Brown and Moore (1971) suggest that from the actors' point of view, each residential area has a 'place utility'. The decision process is structured into two steps: if an actor becomes dissatisfied with his actual location, he will compare potential destinations to which he could move. If the actor is dissatisfied with the utility $U0$ of his actual residential area ($U0 < 0$), and if the expected place utility of a prospective destination area is positive at the same time ($Uj > 0$), then he will suffer from stress.

In the second step, the actor makes a decision about trying to adapt his unfavourable environment to his needs (voice), adapting his aspiration level (passivity) or moving (exit). In modern societies, it is a given fact that place utility depends to a large extend on local labour market conditions. From this perspective the situation in East Germany can be considered an ideal case of decreasing place utility and emerging stress due to the comparison of unemployment rates in East and West Germany. Unemployed people in East Germany consider the inability of employers and politicians to create jobs as slackness. If they cannot change the situation by voice, increasing rates of geographic mobility from East to West Germany can be expected.

But aside from labour market chances there are many other factors that contribute to increasing or decreasing geographic mobility of unemployed people. It is an essential contribution of the sociological perspective of having emphasised that migration was selective with age (Mai 2004a), education (Wagner 1989) and gender, as well as with social networks (Massey & Espinosa 1997) and the effects of social institutions (Van Dijk et al. 1989). Moreover, with reference to an a priori

defined destination area, effects of distances on geographic mobility can be estimated as well (Windzio 2004b). The question is whether the results from contemporary studies remain valid if the geographic mobility of unemployed East Germans migrating to West Germany is investigated.

It is well known that although economic policies of the liberal-conservative government are aimed at deregulation, an immense system of political intervention and redistribution has emerged during the course of the unexpected reunification (Wingens, Sackmann & Grotheer 2000). Measures of retraining and early retirement (as well as of gradual exclusion from labour markets), combined with easy access to unemployment benefits, tended to suspend market mechanisms that otherwise could have led to a tendency towards an equilibrium due to geographic mobility. Probably to a certain degree, deterioration of place utility has been prevented by institutions of unemployment benefits. Even if this is the case, it is an open question of how important these two factors are. Does the push effect of local unemployment rates exceed the bonding effect of welfare institutions?

3 Hypotheses

The line of argumentation suggests the following hypotheses, summarised in table 1:

1. The higher the regional unemployment rate, the lower the place utility $U0$ in region 0 and the higher the exit mobility from East Germany.
2. The larger the distance towards the border, the lower the exit mobility to West Germany because monetary and non-monetary costs increase with greater distance. Moreover, the greater the distance, the more likely are the so-called 'intervening opportunities', as Stouffer (1940) has argued.
3. If geographic labour market mobility does not require residential mobility at the same time, mobility costs are much lower. Consequently, under the assumption that commuting to a West German establishment is common in regions located right at the eastern side of the border, the mobility rate in border areas should be higher than in other areas.
4. If mobility is assumed to be generally higher in larger cities, regions which are a *Kreisfreie Stadt* are expected to have higher outflow rates.
5. In regions with high proportions of people who receive unemployment compensation, the exit mobility rate is expected to be lower since social acceptance of remaining unemployed in such regions is

higher. Accordingly, unemployment compensation is supposed to provide an institutional bonding effect. This contextual effect is expected to be independent of receiving unemployment compensation at the individual level, that is, whether the particular individual receives compensation or not.

6. At the individual level, being a recipient of compensation is expected to have a negative impact as well, because at the individual level, unemployment compensation has an institutional bonding effect, too. The effect is supposed to be mediated simply by rational reasoning of the actor because the net utility of the alternative to stay becomes higher if he or she obtains compensation.
7. If a person has been living and working for many years in East Germany, there is a high probability that he or she has established a comparatively dense social network. Thus, the rate of exit mobility decreases with higher labour force experience acquired in East German labour markets, even if age is controlled. This is an argument provided by McGinnis' (1968) cumulative inertia axiom. He assumes that the longer a person remains in his or her residential area the lower the hazard of out-migration is. This is due to the fact that social networks and social bonds develop and consolidate over time. Applied to regional labour markets, a similar effect can be expected, not just with respect to friendships and private acquaintances, but also with respect to 'weak ties' which provide opportunities to find jobs (Granovetter 1973) and, thus, increase the probability of re-employment in the actual region. Granovetter's main point is that the degree of overlap of personal networks and the similarity of information provided by their networks will be higher if two people have stronger ties and are similar to each other. However, the question whether social interactions of colleagues provide strong or weak ties cannot be answered easily. If two people in the same occupation work at the same establishment for many years, they will be very similar and will not benefit from the diffusion of 'fresh' information to the same extent as in weak-ties networks (Granovetter 1973: 1366). On the other hand, especially from 1990 to 1992, occupational and inter-organisational mobility in East Germany was extraordinarily high (Windzio 2001) and rather the norm than the exception (Diewald & Solga 1997). Hence, it is a plausible assumption that, on average, the development of weak social ties in East Germany is positively correlated with time.
   Correspondingly, labour force experience in West German labour markets is supposed to correlate with integration into social networks in the West. Hence, the higher the labour force experience in the West, the higher is the rate of exit mobility from East to West.

8. At the individual level we expect lower rates of exit mobility for women than for men, because the withdrawal from the labour force is more common for women inasmuch that at least some of them take the legitimate alternative role of housewives.
9. It is a widely accepted result that migration and geographic labour mobility are selective with age. Especially young people who have completed an apprenticeship or academic education and who enter the labour market have high rates of geographic mobility. At the age of 50 and older, the rate is comparatively low (Wagner 1989; Mai 2004a, 2004b; Boyle, Halfacree & Robinson 1998). Following from this, the rate of exit mobility from the East will be expected to decline with increasing age if we apply this argument to the situation of unemployed workers in East Germany. Moreover, it is interesting to see if an age effect occurs even if the sample is restricted to comparatively young birth cohorts.
10. The hypothesis on the effects of female gender on geographic mobility is complex, since the effects are moderated by life events like marriage and childbirth. For women, these two life events are often correlated with the propensity of leaving the labour market. Hence, women might have a lower rate of exit mobility, especially in case of the present study, since discouragement and withdrawal is even more likely when women are unemployed. The results for West Germany suggest that up to the age of 25, women have higher rates of mobility and that woman generally have higher rates of changing their residential areas and their places of work simultaneously (Kalter 1994; Hinrichs 1998). Unfortunately, in the actual version of the IAB employment subsample, information on marriage and childbirth has been deleted from the data set, so that these characteristics remain unobserved in the following empirical analysis. In a recent study, Falk (2005: 190) has shown that East German women have lower rates of re-employment subsequent to unemployment. Since the event of interest is a combination of both outcomes, and further, since married women as well as women with children have lower rates, we expect a negative impact of female gender on geographic mobility.
11. Finally, past research has found evidence of positive effects of higher education and income on geographic mobility. Education has a positive impact on the rate of re-employment as well as on the rate of geographic mobility (Windzio 2004a: 269). Previous income can be considered as a resource which increases the rate of mobility also over greater distances (Windzio 2004b: 37; Arntz 2005: 17). Again, these hypotheses refer to two simultaneous processes, both of which have a positive impact on geographic exit mobility of unemployed workers: re-employment rates and geographic mobility si-

Table 1 *Summary of hypotheses*

Macro Level	Meso Level	Micro Level
Regional Context Effects and Institutions	Social Networks and Institutions	Individual Characteristics
+ Regional unemployment rates East – Distance from border + Border area + *Kreisfreie Stadt* – Percentage of recipients of unemployment compensation	– Labour force experience East + Labour force experience West – Recipient of unemployment compensation (vs. no comp.)	– Gender: female – Age + Years of education + Previous income

+ increases exit rate, – decreases exit rate

multaneously increase with an increasing level of education. Accordingly, higher education and previous income should have positive effects on exit mobility from East Germany.

4 Data and methods

The following empirical investigation is based on data from the regional employment sub-sample provided by the Institute of Labour Market and Occupations Research (IAB) in Nuremberg. The data consists of a 2 per cent sample of all employees in East Germany covered by the social insurance system between 1992 and 2001. In 1997, the notification system covered 86.2 per cent of all employed people in East Germany (Bender, Haas & Klose 2000: 3; cf. also Haas 2001).

Methods of event history analysis will be used in order to estimate determinants of geographic mobility of unemployed people from East to West Germany. Therefore, a description of how episodes have been built is necessary (figure 3).

Each episode starts when an East German worker or employee enters into a state of unemployment. With respect to the origin state, the IAB employment subsample is selective because it includes only employments covered by the social insurance system. Any unemployment subsequent to marginal employment is excluded because marginal employment does not generate a notification in the database. Moreover, also the destination state is selective insofar as only re-employment covered by the German social insurance system is included. Consequently, if an unemployed person in the East starts an employment episode in the West which is only marginal and thus not covered by

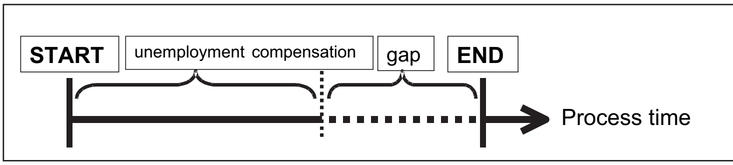


Figure 3 *Example of an unemployment episode*
Source: author; episodes occurring in Berlin have been excluded from the data set

the insurance system, no event of geographic mobility will be registered. If the regular unemployment episode ends with employment in the West that is not covered by the insurance system, an entry into a gap will be registered instead. The same has been done for people who withdrew from the labour market subsequent to unemployment or who ran out of entitlement. In these cases people are still exposed to the risk of moving to the West, even if the risk is comparatively low. A different proceeding has been applied by Arntz (2005: 9), who has defined episodes as ‘censored’ when gaps between periods of transfer receipts exceed four weeks. But considering mobility from East to West Germany, the waiting process for transition into employment in the West continues. The only exception is the competing risk of entering employment covered by the insurance system in the East. Actual job search behaviour can change during a gap, but this cannot be measured on the basis of the IAB data set.

Each episode has been defined as censored when the competing risk of starting employment in the East occurred or when the process has come to the end of the observation window. The episode shown in figure 4 is just an example and the gap is not an essential component Slightly more than 22 per cent of the sub-episodes (yearly splits) are gaps and, in the majority of cases, people receive unemployment compensation; before 2005, unemployment compensation consisted of unemployment benefits (*Arbeitslosengeld*, 46.6 per cent of all sub-episodes) and unemployment assistance (*Arbeitslosenhilfe*, 31.1 per cent of all sub-episodes).

The data of the IAB employment subsample provides information about the establishment in which a person has been employed before entering unemployment. Geographic mobility in terms of ‘speculative migration’, that is, a person moves without having arranged for employment in the destination area in advance, cannot be investigated using the IAB database. Speculative migration has been common in the US in the twentieth century. Van Dijk et al. (1989) argue that in most European countries, employment relationships are highly institutionalised. In addition, institutions such as employment bureaus gather information on national labour markets as a whole. As a result, in Europe – especially in highly institutionalised labour markets such as

Germany – there is a typical sequence of geographic mobility: first, a person is dissatisfied with the actual residential area. In case of the following analysis, dissatisfaction of unemployed workers is a function of the impossibility to find a job. Second, people try to arrange an employment in another residential area. Third, if they are successful in doing so, they move. That is why the inability to cover speculative migration is only a minor shortcoming in Germany. Nevertheless, we should be aware of it when we interpret the results.

A very important advantage of the IAB data set is the very precise measurement of process time. Dates are reported daily and the size of the spatial units in which establishments are located are rather small (*Kreisregionen*), so that distances can be measured quite precisely as well. Due to an anonymisation procedure, some spatial units have been merged, but in most cases, these regions are of the same type and of the same location. Finally, if geographic mobility from East to West Germany following unemployment is a rare event, a large data set will be necessary in order to give reliable estimates. Only the IAB employment subsample can provide sufficient information on these processes.

In order to eliminate transitions into retirement or early retirement, the sample has been restricted to people born in 1955 or later. Standard models of linear and non-linear regression analysis are based on the assumption that each observation contributes independent information. Due to the clustering of individuals within their regional contexts, the assumption of independent observations is violated. Imagine that in one area, extreme context-effects like high regional unemployment rates have a strong impact on out-migration subsequent to unemployment. Within this context, all individuals who are at risk of geographic mobility are affected by the same contextual characteristics. To put it very simply: if one individual sampled in a specific area is known, to a certain degree this individual can be used to predict the migration rate of another individual drawn from the same context. In multilevel analysis, the technical term for this problem is 'intra-class correlation' (ICC) (Snijders & Bosker 1999: 17). Recently, research has shown that discrete-time multilevel event history analysis can be an important enhancement to the estimation of contextual effects in migration research (Kulu & Billari 2004; Windzio 2004a, 2004b). These models are developed for the analysis of discrete time data, however, and should be applied only if longer durations are observed on a yearly basis. In many cases, periods of unemployment require much less than a year. In the study at hand, unemployment duration is measured very precisely in days. Collapsing process time into categories just in order to make a discrete-time model applicable would result in an unacceptable loss of information. In many cases, unemployment duration is even limited to a couple of weeks, so the daily information on the process time should

Table 2 *Descriptive statistics, n=123,212 sub-episodes*

Variable	Mean	Std. Dev.	Min	Max
Gender: female	0.52	0.49	0	1
Age in years	30.76	6.93	15	46
Years of education	11.28	1.88	8	19
Academic degree	0.02	0.15	0	1
Income (Euro)	33.31	20.95	0	400
Unemployment assistance	0.31	0.46	0	1
Unemployment benefits	0.46	0.49	0	1
Gap	0.22	0.41	0	1
lfx East	126.11	84.10	0	374
lfx West	0.69	5.45	0	282
Kreisfreie Stadt	0.41	0.49	0	1
Local unemployment rate	18.05	3.02	7.6	25.40
Regional proportion receiving unemployment compensation	20.92	4.83	7.5	37.80
Distance to border (kilometres)	102.71	62.75	2.8	236.10
Area directly at the border	0.17	0.38	0	1

Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

be used. Process time measured in days requires the application of continuous-time models. What the present study needs is a model developed for continuous time that provides a solution to the clustering problem at the same instant.

In event history analysis there is wide range of parametric and semi-parametric models. In contrast to the semi-parametric Cox regression, in which hazard rates are estimated for each time interval between two succeeding events, the simplest form of parametric modelling is the exponential model that assumes a continuous function representing a constant hazard over time (Cleves, Gould & Gutierrez 2004: 215). A generalised version of this model assumes constant hazard rates within arbitrarily defined time intervals and thereby provides a very flexible approach to modelling time dependence (Blossfeld & Rohwer 1995: 110). Within such a continuous-time framework, the problem of clustered observations is accounted for by using a shared frailty model. Frailty models have been developed in order to control for unobserved heterogeneity. In the case of the 'unshared' frailty model, unobserved heterogeneity is controlled at the individual level, meaning that, with respect to the hazard rate, individuals are significantly different from each other for reasons not observed in the data at hand. This heterogeneity is considered by multiplying the estimated hazard by a randomly distributed 'frailty term'. In contrast, the 'shared frailty model' assumes unobserved heterogeneity due to characteristics shared by each sub-

group of individuals. It can be considered as a random effects model in which the frailty term follows a random distribution for each group (Hougaard 2000: 215). Subgroups are defined by context units in which observations at the individual level are clustered – in this case, these units are regions in East Germany. Consequently, the shared frailty approach provides event history analysis for correlated survival times in parametric and semi-parametric continuous time hazard models.

$$h(t_{ij}|x_{ij}, \alpha_j) = \alpha_j h(t_{ij}|x_{ij}) \qquad \mathrm{var}(\alpha) = \theta$$

In the equation above (cf. Cleves, Gould & Gutierrez 2004: 294), the left-hand side denotes the hazard h of individual i in region j at time t. The hazard is conditional on characteristics x of individual i in region j and also on the frailty term α which is assumed to be randomly distributed over the East German regions. For reasons of mathematical tractability, α is assumed to follow a gamma distribution (Hougaard 2000: 233) with a mean of 1 and a variance of θ (theta). The hazard rate of individual i in region j is multiplied by α_j, which captures the particular impact of unobserved factors in region j.

5 Results

In the first step, it might be of interest of how regional rates of outflow mobility are spatially distributed over East Germany. Figure 4 shows the outflow rates in twenty East German regions, namely those ten with the highest rates and those ten with the lowest rates. These average yearly rates have been computed for the whole period from 1992 to 2001. For example, we can find the highest average rate of outflow mobility of 6.75 in the region of Ludwigslust, in the north of East Germany, right at the border to the West.

In the region Märkisch-Oderland, located at the border with Poland near Berlin, we find the lowest average proportion with 1.64 per cent. Figure 4 indicates that all ten regions with the highest rates are very close to the western border, whereas regions showing the lowest rates tend to be farther away. These descriptive results suggest effects of spatial distance or proximity to the border on mobility of unemployed workers from East to West. But an evaluation of such an effect is only reliable if the effect of being located directly at the border to the West is controlled. Otherwise, the effect could be an artefact that occurs due to people finding jobs on the other side of the border without changing their residential area. Strictly speaking, controlling for areas at the border is no guarantee that in each individual case geographic labour mobility is associated with residential mobility as well. On the other hand, most commuting from and to work by crossing the border is expected

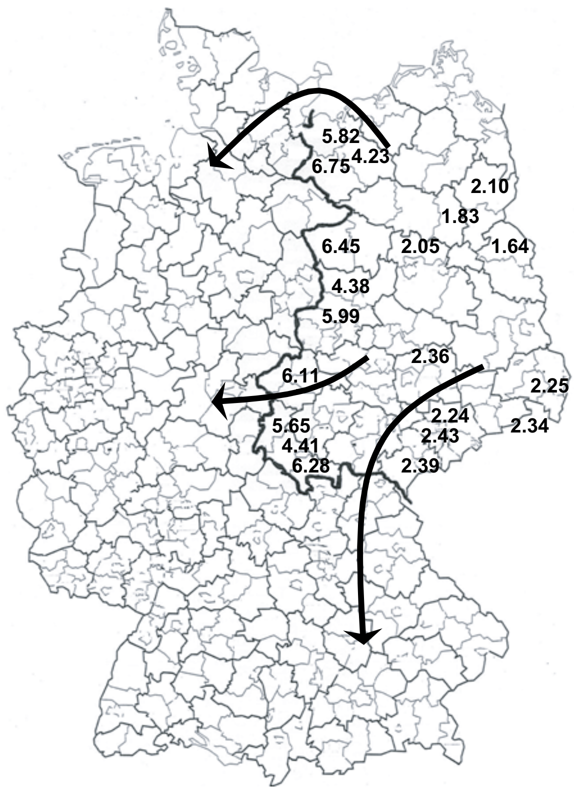


Figure 4 *Geographic mobility of unemployed workers from East to West Germany 1992-2001, in per cent of unemployed workers*
Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

to happen from these border regions and controlling these regions might be a good approximation at least.

Figure 5 shows the twenty most important channels of geographic mobility of unemployed workers. Cases top one to top ten are indicated by thick arrows, cases top eleven to top twenty by thin arrows. In contrast to figure 4 where proportions relating to numbers within each region are presented, in figure 5 the absolute figure of events between two specific regions has been divided by the total sum of all outflow events from East to West. Consequently, the relative importance of each specific channel is also a function of population masses, i.e. the size of a particular region.

Again, we find a comparatively large proportion of outflow mobility in the border regions. Moreover, among the top ten there are two channels which do not just cross the border but overcome larger distances: from Parchim/Schwerin Stadt to Hamburg City, and from the Rostock

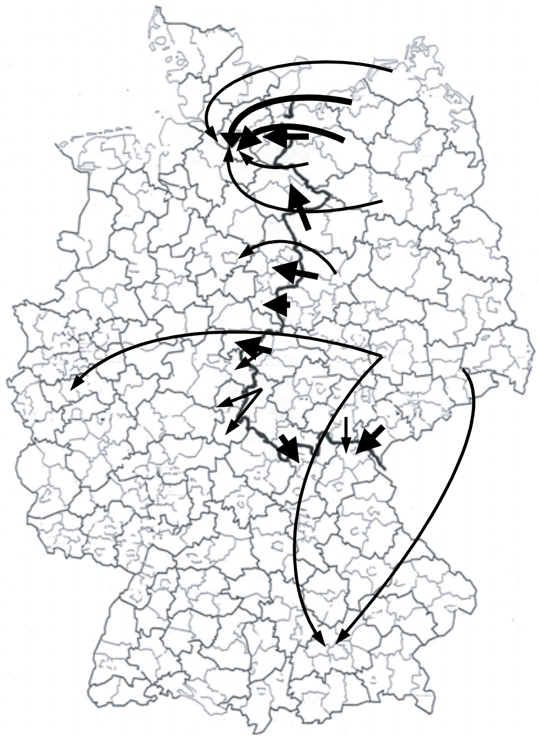


Figure 5 *The 20 main channels of geographic mobility of unemployed workers from East to West Germany*
Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

region to Hamburg City. In addition, among cases top eleven to top twenty, there are channels from Leipzig to Munich, from Leipzig to Cologne and from Dresden to Munich. From these figures we can conclude that outflow mobility of unemployed workers from east to west is governed by three patterns: first, the effect of spatial proximity to the border; second, the effect of migration from the large cities Leipzig and Dresden to Munich and third, a comparatively high level of outflow mobility from the northern federal state of Mecklenburg-Vorpommern to Hamburg. Except for the latter case, the two others seem to be in line with gravitation models in migration research, since simple versions of these models postulate that small distances and high population masses increase the mobility rate. But even if the IAB subsample is the largest existing database in Germany, the number of cases becomes rather small if the outflow to specific West German areas is calculated, so the results should be interpreted carefully.

Figure 6 shows a survivor function of geographic mobility of unemployed workers from the east to the west. After two years (728 days),

89.9 per cent of all unemployed workers were still without an event of geographic mobility across the border to the west. This proportion is in line with the aggregated rates at the regional level presented in figure 4 (overall, around 5 per cent each year). Much more interesting than the simple survivor function are individual and contextual (regional) determinants of mobility, which are presented in table 3.

At the individual level we find significant negative effects of female gender and years of education. An additional educational effect indicates whether a person has an academic degree or not. Academics have higher rates of spatial mobility from East to West Germany subsequent to unemployment. Accordingly, the effect of education is non-linear. Maybe higher non-academic education increases the rate of re-employment within the same region and for this reason the effect on exit mobility is negative.

Effects of social networks are established at an intermediate level between the individual and the regional context. Labour force experience in both East and West Germany has significant impacts on the geographic mobility of unemployed workers from East to West Germany. And signs are as expected according to the cumulative inertia axiom in the social network approach: the higher the East German labour force experience is, the lower the exit rate of unemployed workers from East German regions is. In addition, the higher West German labour force experience is, the higher the exit rate is. Even if labour force experience measured in months of employment in each part of Germany is only a

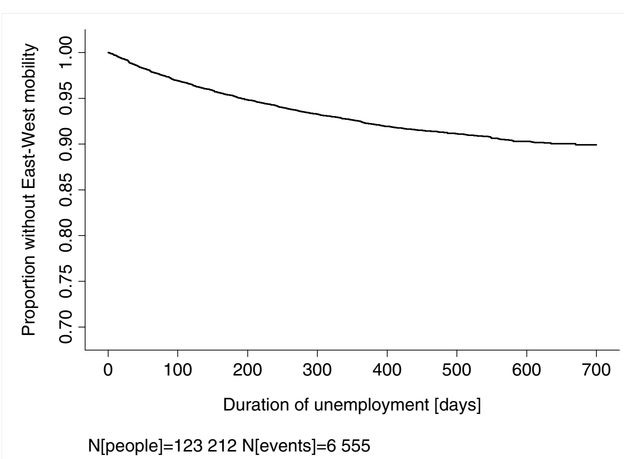


Figure 6 *Outflow mobility of unemployed workers from East to West Germany, Kaplan-Meier survivor function, first two years of unemployment*

Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

Table 3 *Geographic mobility of unemployed workers from East to West Germany. PCE shared frailty hazard model, 1992-2001, first four years, Berlin excluded*

Individual characteristics		**Social networks**	
Gender female (1=yes)	-0.467***	Labour force exp. East Germany (months)	-0.002***
Age (years)	-0.004	Labour force exp. West Germany (months)	0.012***
Education (years)	-0.039***	**Regional factors**	
Academic degree (1=yes)	0.380***	*Kreisfreie Stadt* (1=yes) j	0.107*
Previous income (euros)	0.005***	Regional unemployment rate jt	0.051***
		Distance from border (kilometres) j	-0.001*
Institution (meso)		Border area (1=yes) j	0.397***
Recipient of unemp. assistance	-1.162***		
Recipient of unemp. benefit	-0.763***	**Institution (macro)**	
No compensation / gap	Reference group	Per cent recipients of compensation in region jt	-0.054***
Exp (constant): days 0-182= 0.00163*** 182-364= 0.00090*** 364-546= 0.00070*** 546-728= 0.00062*** 728-910= 0.00117*** 910+ = 0.00039***			
N people = 123212	θ = 0.034***		
N events = 6555	Wald χ^2 (df=21) = 110531.69 ***		
N regions = 76			

* p < .05 ** p < .01 *** p < .001
Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

crude measurement of social networks, both effects are in accordance with our hypotheses.

At the micro level we find strong effects of unemployment compensation. The reference group consists of unemployed people who receive no compensation or who are in a gap, that is, in a state that is not covered by the notification system. Unemployment assistance as well as unemployment benefits have strong negative effects on geographic mobility from east to west. The question of how strong these effects actually are will be addressed below. Strikingly, in absolute figures the effect of unemployment benefits is higher than the effect of unemployment assistance. Following a rational choice perspective, one could argue that the institutional bonding effect of unemployment compensation should be higher, the higher the payment is. Overall, unemployment benefits are higher than unemployment compensation and it should be the other way around. On the other hand, receiving unemployment benefits is confounded with longer durations of unemployment and thus with unobserved correlates of ability: recipients of unemployment assistance constitute a selective sample of people who

generally have worse prospects of re-employment. So actually it is absolutely consistent that the negative effect of receiving unemployment assistance is stronger than the effect of unemployment benefits.

Let us now have a look at the macro-level covariates – the context effects. The dummy variable *Kreisfreie Stadt*, indicating larger cities with autonomous local administration, also has a significantly positive effect. In addition, the higher the local unemployment rate, the higher the exit rate is, which is in accordance with findings of Arntz (2005) and her emphasis on the rationality of job search behaviour of unemployed workers. Effects of distances are exactly as expected according to our hypotheses presented above: the greater the distance to the border, the lower the rate of geographic mobility across the border. This effect remains significant even if border areas are controlled: if a person has been employed in an East German region located right at the border, his or her exit rate is increased by (exp(0.397) – 1)*100 = 48.7 per cent compared to people who had their last job in other East German regions.[3]

Finally, there is also a highly significant institutional bonding at the context level which reduces the rate of outflow mobility as well. Interestingly, this effect is independent of the institutional bonding effect of unemployment compensation at the individual level. How can such a context effect be interpreted?

A first attempt at explaining this independent macro-level effect may refer to inter-regional differences in the ease of access to unemployment assistance. Unemployment assistance is administered by local authorities and perhaps these authorities differ in restrictions they impose on the access. In regions which have rather liberal access criteria, unemployed people who are not entitled to receive assistance still remain in the region simply because they hope to become entitled.

Another explanation could refer to an increased social acceptance of staying unemployed in regions where the proportion of recipients of compensation is comparatively high. That is, people who do not receive any kind of unemployment compensation or who are only marginally employed are not pressured in everyday interactions to move or to migrate in order to find a job elsewhere. Strictly speaking, this implies an emergence of something like an acceptance within the regional culture that unemployed people receive benefits and stay in their area, which is a rather strong assumption. In the end, neither of these explanations is completely satisfying. But any explanation has to cope with the problem that the macro-level institutional effect operates independently from the individual-level effect and, consequently, the explanation has to be independent from the individual-level explanation as well. Certainly, these effects emerge from individual action aggregated to the macro level. Individual action is an outcome of how actors perceive op-

portunity structures and situational constraints, as illustrated in figure 2. Perhaps we need qualitative methodology that could provide knowledge about how actors experience high or low regional proportions of recipients of unemployment compensation. Ultimately, only qualitative methodology is appropriate if we try to explain the meaning of social phenomena from the actors' point of view.

Aside from signs and significance it is interesting to know how relevant findings of this study are. In figures 7 to 10, survivor functions have been predicted in order to give an idea of the quantitative relevance. All computations are based on the piecewise constant exponential model presented in table 3. For all other covariates, mean values have been inserted into the equation, for θ a value of 1 has been assumed.

Figure 7 represents three scenarios: overall mean unemployment, mean regional unemployment rate plus one standard deviation and mean regional unemployed rate minus one standard deviation. In figure 7 the difference in outflow between the scenarios of plus and minus one standard deviation amounts 3.2 percentage points after two years.

Figure 8 shows the effect of the institutional bonding effect at the macro level. Again, survivor functions for the same three scenarios have been computed. After two years, the proportion of unemployed workers without an exit-move to the West amounts 89.2 per cent at mean value of the proportion receiving unemployment compensation. If this proportion declines to a value of minus one standard deviation, then the proportion of stayers will amount 86.2 per cent after two years. If it increases to a value of plus one standard deviation, the



Figure 7 *Effect of the regional unemployment rate, survivor functions*
Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

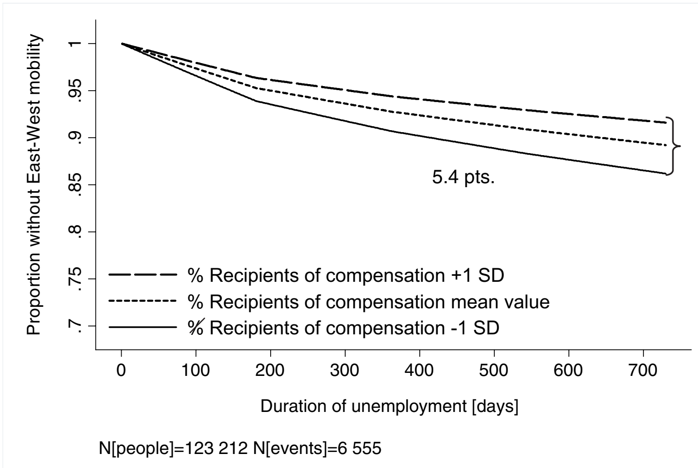


Figure 8 *Institutional bonding at the macro level: effect of the regional percentage of people who receive unemployment compensation, survivor functions*

Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

stayer proportion will amount 91.6 per cent, so the difference is 5.4 percentage points.

Of course, welfare institutions do also have effects at the individual level. Figure 9 presents the estimated survivor functions. After two years, the proportion of stayers' amounts 89.6 per cent if unemployed workers receive unemployment benefits. The corresponding proportion amounts

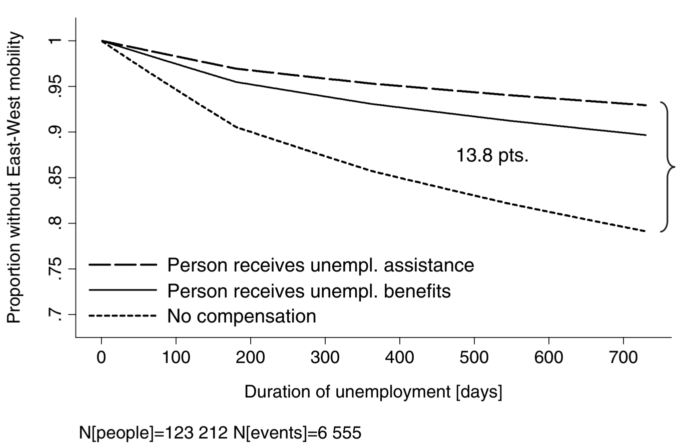


Figure 9 *Institutional bonding at the micro level: effect of individual receiving of unemployment compensation*

Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

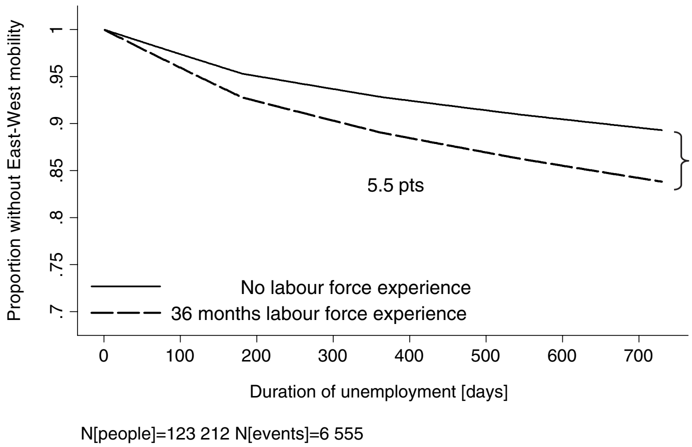


Figure 10 *Effects of social networks: labour force experience in the West*
Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

92.9 per cent if they receive unemployment compensation. But it is only 79.1 per cent if people do not receive any kind of unemployment compensation, which is a difference of 13.8 percentage points.

Finally, the result of a quantification of the social network effect as proposed by McGinnis (1968) shows that after two years people who do not have any labour force experience have a probability of 89.3 per cent of not moving to West German labour markets. This probability is only 83.8 per cent for those who already have 36 months labour force experience in the West, which is a difference of 5.5 percentage points.

Results of these quantitative differences are summarised in table 4.

Table 4 *Comparison of relevance of effects: proportion without East-West – mobility after 2 years (728 days), estimated from survivor functions*

	– 1 SD	Mean	+ 1 sd	Maximum difference
Regional unemployment rate	90.6 %	89.1 %	87.4 %	3.2 pts.
	– 1 SD	mean	+ 1 SD	diff.
Percentage of compensation recipients	86.2 %	89.2 %	91.6 %	5.4 pts.
	no	assistance	benefits	diff.
Unemployment compensation (individual)	79.1 %	92.9 %	89.6 %	13.8 pts.
	no		36 months	diff.
Social networks (West)	89.3 %	–	83.8 %	5.5 pts.

Source: IAB subsample, regional file (Hamann et al. 2001), author's computations

A comparison leads to the conclusion that geographic mobility of unemployed workers from East to West Germany is governed to a large extend by welfare institutions. Albeit the effect of regional unemployment rates tends to induce a labour market equilibrium in that higher regional unemployment rates increase geographic mobility of unemployed workers, this effect is not only counterbalanced by welfare institutions, but the welfare effect even exceeds the effect of the unemployment rate. As a result, we find evidence that, at least to a certain degree, geographic mobility can be controlled or adjusted by state intervention. This may seem to be rather obvious, but it might be of interest how large the proportion of mobility is which can be influenced by intervention.

Moreover, in the public debate on geographic mobility in Germany sometimes a distinction is made between *good* and *bad* mobility. On one hand, the outflow of young and highly qualified people from East Germany is considered as a nuisance since they are urgently needed by local firms. In addition, out-migration of better-paid people deprives the East German economy of domestic demand in the long run, which inhibits an economic recovery as well. On the other hand, East German unemployment rates are approximately twice as high as unemployment rates in West Germany and if geographic mobility leads at least to a slight trend towards equilibrium, mobility should be facilitated rather than inhibited due to highly developed welfare institutions. In the end, this argument does not hit the mark since in periods of mass unemployment, when the unemployment rates are exceptionally high, a deregulation and a reduction of welfare would be highly explosive in both the East and the West.

6 Conclusion

The empirical findings presented above show that geographic mobility of unemployed workers depends on both micro-level and macro-level determinants. Starting from Hirschman's description of market behaviour in situations of economic slackness, it has been argued that, based on the place utility concept of Wolpert (1975) and Brown and Moore (1971) and the theory of relative deprivation, there might be an increased rate of exit from East German labour markets. Due to extraordinarily high unemployment rates in East Germany, place utility becomes devaluated so that out-migration might be a sensible response. But there are also factors counteracting geographic mobility of unemployed workers from East to West. At the individual level, female gender and higher education (aside from academic degrees) have negative impacts. The same is true for labour force experience in East Germany,

which has been considered as an indicator of establishment and consolidation of social networks. In contrast, West German labour force experience increases mobility from East to West, which is in line with our hypotheses as well. Furthermore, at the macro level, distance from the border has a negative impact. A similar effect has already been found in a study focusing on West Germany, in which mobility between the North and the South has been investigated (Windzio 2004b). It is noteworthy that the effect is also valid if the spatial shape is completely different and if the maximum distance from the border is comparatively short.

Especially institutions of social welfare also have strong effects on the rate of spatial labour mobility, as shown in the empirical analysis. In the end, the explanation of the macro-level effect of the percentage of people who receive unemployment compensation is very difficult. This is a well-known problem in multilevel analysis and in similar models: since it is a context-level effect and the individual-level effect is controlled in the model, the explanation should be based on arguments that are independent from the individual level effect. The individual effect in turn, which has a strong effect on geographic exit mobility of unemployed workers, is easy to interpret: basically, individual rationality refers to institutions of welfare and unemployment compensation, which seem to be more important than local unemployment rates.

The analysis has shown that geographic labour mobility can be influenced by state intervention. At least to a certain degree it can be adjusted by unemployment compensation. Nevertheless, the question of how this finding should be implemented in labour market policies remains a debatable political issue because the political valuation of geographic mobility itself is still rather ambiguous – inasmuch as 'good' and 'bad' mobility is evaluated differently.

Beyond the enormous potential that the IAB database has for an investigation of geographic labour mobility, there are also some shortcomings. In the 2005 edition of the data, we have no information about marriage or children. However, from migration research we know that decisions to move are not made by workers or employees alone, but also by households (Rossi 1980; Mincer 1978). Further research should be based on data that also include information about the complete household, like the GSOEP, and which is at the same time large enough to enable researchers to analyse regional effects in detail.

Notes

1 Many thanks to Henrik Egbert and Holger Kolb for their helpful comments, and to Grit Risse.

2 On the 30 August 2004 around 70,000 people participated in a protest march in Leipzig in order to express their dissatisfaction with the labour market policy and the labour market reforms planned by the government.

3 Strictly speaking, in unshared and shared frailty models, exponentiated coefficients can be interpreted as hazard ratios only at time $t = 0$ because differences in covariate effects will be reduced as the more frail individuals (or individuals from groups characterised by higher frailties, respectively) drop of the risk set (Cleves, Gould & Gutierrez 2004: 289). On the other hand, the reported exponentiated coefficient is at least comparable to the effect estimated by a standard PCE model [(exp(0.331)-1) *100=39.2 per cent].

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How Recent Amendments in German Immigration Law Affect Decisions

THE CASE OF POLISH DOCTORS[1]

Simon Fellmer

1 Introduction

The potential of a managed immigration to Germany due to economic reasons was for a long time ignored by German politicians. They claimed that Germany was not a country of immigration at all. For example, the German social democratic party (SPD) agreed in 1982 that the Federal Republic of Germany was not an immigration country. In 1994 the conservatives (CDU/CSU) made clear that their party would never adopt a German immigration law (Marshall 2000: 13, 155). This situation lasted until 2000, when the German chancellor Gerhard Schröder announced the decision to establish a German version of the American 'green card' and thereby initiated a discussion about managing the inflow of immigrants due to economic reasons. As a result, German Minister of the Interior Otto Schily declared that Germany would establish the most progressive immigration law in the European Union (EU). Immigrants should be selected on the basis of a point system, which is used in typical immigration countries such as Canada or the US. In this way, Germany would be selecting its immigrants according to demographic needs and labour market demands. The point-based system was not introduced due to political tactics. Almost at the same time (beginning on 31 March 1998), the negotiations for the accession of Poland as a new member of the EU took place. The moot point has been the question as to whether Polish citizens wishing to work in other countries should be allowed to move freely within the EU. Germany only accepted Poland as a new EU member after being allowed to restrict the freedom of movement within the EU for those Polish employees willing to migrate to Germany.

Germany took the chance to exercise this option: Polish employees will not be allowed to work in Germany until the year 2009 (Ullrich & Rudloff 2004: 173-177; Bundesregierung 2006). Simultaneously, professional associations stated that Germany was starting to run out of

doctors, something Great Britain, for example, had experienced in the past. This development was broadly covered and enlivened by the media. Great Britain had embarked on a clear strategy: 'Poles fill holes' announced the Department of Health (2005) referring to the fact that Polish doctors could be attracted for the British health system.

This leads to the following questions: Can an influx of Polish doctors into Germany also be a promising strategy and if so, does the German policy pave the way for Polish doctors to migrate to Germany? The following analysis is thus divided into two parts. In the first part it will refer to questions regarding how serious the lack of doctors in Germany is, if immigration of Polish doctors can be a worthwhile strategy to counteract the problem, and what alternative strategies may be taken into consideration. Because the immigration of Polish doctors[2] is thereby identified as a potentially effective measure, a wise strategy for German policy would have been to motivate Polish doctors to migrate to Germany. To answer the question if German policy did so, the influence of the recent amendments in German immigration law on the migration decision of Polish doctors is tested in a framework based on the theory of wage differentials. Thus the inner decision of Polish doctors is visualised as a decision based on benefits and costs arising from migration.

2 Is Germany dependant on the immigration of Polish doctors?

2.1 How urgent is the shortage of doctors?

'Germany is running out of doctors' [translation: SF] warns Kopetsch (2005) in his study for the medical organisations *Bundesärztekammer* and *Kassenärztliche Bundesvereinigung*. Germany without doctors seems to be an overly pessimistic scenario. But some trends mentioned in the study might be a cause for concern: while 90,594 people studied human medicine in 1993, the number had shrunk by 13 per cent to 78,478 in 2003. About one-quarter of all alumni decide not to work as doctors after having finished their studies and prefer to earn their money in the pharmaceutical branch or in management consultancies (Kopetsch 2005: 33-44). As a result the medical fraternity is becoming increasingly outdated. From 1993 to 2004 the average age of doctors authorised by the relevant institution of the statutory health insurance (SHI) rose from 47.5 years to 50.8 and from 38.1 to 40.7 for hospital-based doctors. The percentage of SHI-authorised doctors over the age of 60 increased from 8.8 to 18; in the former East German states (the *New Länder*), this was even more marked, rising from 4.1 to 26 per cent (1993-2004). Logically the share of doctors under the age of 35 has fallen in the same period: from 26.6 to 16.3 per cent (Kopetsch 2005: 20-21).

What might have caused these processes? On the one hand, one can identify the effects of the Health Care Structure Act (*Gesundheitsstrukturgesetz*)[3] implemented in 1992: since then the earnings of the doctors have remained stable or have even fallen for the first time in the history of the German health care system. Thus working as a doctor in the health care system is not as attractive as it was before (cf. Hoesch 2003: 106-108). On the other hand, the working conditions for doctors in Germany are well known for being unattractive. Doctors frequently complain that working in their business does not fit with having a family or that their job leaves no space for leisure time.[4] Additionally, they criticise the lack of chances for re-entering the workforce after taking parental leave. Hospital-based doctors are also often discouraged by bureaucratic obstacles and a poor working atmosphere which, in the majority of cases, is caused by their superiors' leadership, especially during their time as trainees (Finke 2005; Bundesministerium für Gesundheit und Soziale Sicherung 2004: 119-120). Shrinking wages and poor working conditions might be the reason why a large proportion of health professionals have left Germany and migrated to other countries.[5] Although the figures vary from 6,000 (Graupner 2005) to 12,000 (Kopetsch 2005: 130), one can conclude that this trend has placed and continues to place the German health care system under pressure.

But are these trends sufficient to speak of a shortage of doctors in Germany? There does indeed seem to be a current local shortage of doctors in both the practice network and the hospitals, especially in the unattractive rural areas and in the *New Länder*.[6] The supply rate of family doctors may exemplify this. The Federal Joint Committee (*Gemeinsamer Bundesausschuss*) defines the ideal supply rate as reaching 100 per cent of the need-related planning; a shortage is defined as a level of 75 per cent. To reach the 100 per cent mark in 2003, 638 additional family doctors were necessary nationwide. Twenty-one areas had fallen below the level of 90 per cent, half of them in the *New Länder* (e.g. Dessau, Halberstadt, Altmarkkreis Salzwedel, Jerichower Land, Bernburg, Saalkreis and Sangershausen). In Brandenburg and Thüringen, respectively 190 and 170 surgeries were vacant (Repke 2003). In the next ten years, about 44 per cent of all practicing family doctors are expected to retire due to their age (Kopetsch 2005: 78-87). The hospitals are also searching for employees. Blum, Offermanns and Schilz (2006) estimate that 28 per cent of all German clinics have vacant positions (55 per cent in the *New Länder*, 24 per cent in West Germany). This means 3.5 vacant positions in the *New Länder* and two in West Germany for each hospital and adds up to a total of 1,300 vacancies; some sources speak of a total of 5,000 vacancies (Bundesagentur für Arbeit 2005a: 14). In light of these statistics, it seems realistic to con-

clude that there is a current shortage of doctors in both the practice network and hospitals. These findings are confirmed by the German Department of Health, which has clearly stated that the situation will worsen if no counteractive measures are taken (Bundesministerium für Gesundheit 2004: 63-70). In the future, the demand for medical services is expected to increase rather than decrease. Schulz (1999: 11-12), for example, comes to the conclusion that due to the aging society the number of cases in hospitals will grow by 2.3 million each year until 2020. While technical progress will result in improved treatment methods, experts expect that with these improved methods the demand for medical treatment will grow synchronically (Braun & Müller 2001: 14).

2.2 *Is immigration an adequate reaction?*

How can politics influence the supply of doctors? One might identify two factors: by improving the working conditions for doctors, and by increasing their incomes. Hospitals interested in a good working atmosphere have various means to exerting their influence. They can, for example, arrange for in-hospital kindergarten, train their management personnel or restructure their organisation. Most of these modifications, however, do not take place under the influence of political decisions (Bundesministerium für Gesundheit 2004: 113-126; Blum, Müller & Offermanns 2004: 184-185). The general lack of doctors might also be countered by increasing wages. This seems to be a promising strategy, especially for the *New Länder*: case studies from different communes show that when local authorities grant doctors financial support (e.g. by awarding benefits to the equipment or guaranteeing a minimum turnover) they can attract more doctors to their region (Bausch 2004: 44-49). To raise wages in general, however, would mean to retract the efforts of the *Gesundheitsstrukturgesetz*. However, even if after having improved the working conditions for doctors more people decide to study human medicine, and afterwards more students decide to work as doctors, a shortage will still remain. The described measures might have an impact in the long run. The lack of doctors is, in contrast, a current problem and may worsen in the medium term (cf. Blum et al. 2004: 184-185). Hence the immigration of doctors, a process which would have a direct impact, has to be considered as an alternative (cf. Hoesch 2003: 112).

Immigration of doctors to Germany can also be considered in economic terms. Following Zimmermann et al. (2001: 28-30), the labour market can be divided into several sub-markets separated by criteria including business, region, qualification and so on. Immigration to one sub-market can be allowed if the following 'market imperfections' exist.

The existing wage must be, because of extrinsic conditioned rigidities, below the equilibrium wage. Thus, there is a labour shortage. This can be interpreted as being quite an eye-catching parallel to the effects of the *Gesundheitsstrukturgesetz*. Furthermore, mobility (both the mobility between regions as well as between professions) is insufficient to provide a satisfying level of labour force, another parallel to the findings described above. If these two conditions are fulfilled, immigration can be accepted without the threat that wages are set under pressure or that natives face the risk of unemployment. Two studies have advised that foreign doctors should be allowed to immigrate to Germany. The Institut der deutschen Wirtschaft Köln (2004) identifies the profession of doctor as one of just five out of 300 professions in which immigration can be accepted. Zimmermann et al. (2001) rank 270 professions according to their capacity for absorbing foreign workers using three different ranking methods. The profession of doctor is, according to one method, the twenty-sixth most able profession to absorb immigration, whereas according to another method, it is the fourteenth most able.[7]

Apart from questions of wage pressure, different experts have recommended that Germany should open its borders for immigration (including among many others: Unabhängige Kommission Zuwanderung 2001: 11; Bade 1994). In the long run, the experts regard immigration as one possible strategy to stabilise welfare systems and to preserve a sufficient pool of qualified workers. If the first argument is followed, politicians should focus on young migrants. According to the second argument, highly qualified workers should be selected, as the shift of the economy from the production to the service sector will be accompanied by a larger demand for excellent qualifications (Sachverständigenrat für Zuwanderung und Integration 2004: 187-190; Frölich & Puhani 2002). Even from this perspective foreign doctors should be treated as a privileged group of immigrants. Doctors belong to the group of highly qualified professions and 99 per cent of them work in the service sector (Bundesagentur 2005b). If they are young, they are ideal immigrants from the viewpoint of the demands of the labour market and welfare system and should even be given reasons to stay. Thus, considering the findings from both sections 2.1 and 2.2, the immigration of Polish doctors should have been encouraged by the German government.

3 Incentives for Polish doctors to emigrate to Germany and the influence of recent amendments in law

To analyse how German politics has influenced Polish doctors' decision to emigrate or not, it is first necessary to uncover which factors influ-

ence their decision. International migration can be defined as the movement of individuals across the borders of nation states (Borjas 2000a: 1). To migrate for economic reasons is, according to Hicks, (1932: 76) mainly motivated by the wage differences between nations:[8] '[...] differences in wages are the main cause of migration'. Labour forces will thus move to areas where they can gain high benefits by migrating because their human capital[9] is better paid. They take into consideration the benefits and the costs of movement and then decide whether to migrate or not and to which destination. Following this theory this section will refer to the benefits of migration for economic reasons and show a) how large the wage differences are between Germany and Poland for Polish doctors and which general parameters might have an impact on the expected increase in income, b) what other incentives might motivate migration of this type and c) what impact the recent German migration policy has had. Section four will, in contrast, refer to the costs of movement.

3.1 *Monetary wage differentials*

If a Polish doctor has to choose between staying and emigrating, wage differentials between Poland and Germany might be one of the strongest incentives to emigrate for economic reasons. Thus he/she[10] will compare the potential incomes between these two countries. The theoretical framework developed in this chapter is one method to visualise this comparison process and to incorporate other factors (here: convergence and unemployment rate) that might have an influence on the wage differentials. The first important fact therefore is the view of the doctor on what he will potentially earn in Poland:[11]

$$(1) \quad PV^P = w_0^P + \frac{w_1^P}{(1+r)} + \frac{w_2^P}{(1+r)^2} + \ldots$$

PV^P is the present value of his income if he stays in Poland. w_0^P is the Polish wage earned in the first year, w_1^P the wage in the second year. r is the interest rate, which is positive, because the doctor will recognise the current earnings more than the future earnings.[12] For Germany the equation is analogous:

$$(2) \quad PV^G = w_0^G + \frac{w_1^G}{(1+r)} + \frac{w_2^G}{(1+r)^2} + \ldots$$

By moving to Germany and earning the current wages here the Polish doctor loses his income in Poland. Thus to calculate the wage difference the Polish wages have to be subtracted from the German wages. The present value of migration (*PVM*) is given as:

$$(3) \quad PV^G - PV^P = PVM$$

If *PVM* is larger than zero, there is an incentive to emigrate. *PVM* is hereafter referred to as the 'migration profit'. Bringing the three equations together, *PVM* can be written as the sum of the yearly wage differences between Poland and Germany for each year from the beginning ($t = 0$) to the last year of income (E) (e.g. the retirement or the re-emigration to Poland) discounted by r:

$$(4) \quad PVM = \sum_{t=0}^{E} \frac{w_t^G - w_t^P}{(1+r)^t}.$$

For a calculation of *PVM*, comparable wage data for Poland and Germany is necessary. One potential source is the Statistical Office of the European Communities (Eurostat). The doctors are mentioned in the sub-category 'medical doctors'[13] (Eurostat 2005). Wage data is given (unfortunately only) for the superior category 'professionals' as gross annual earnings differentiated by age.[14] The earnings for Germany and Poland in purchasing power standards (PPS)[15] are shown in table 1.

An alternative source is the *October Inquiry* of the ILO (2005) in which data is collected for the profession 'general physician'[16] and thus at a lower aggregated level compared to the data of Eurostat. According to the ILO, a general physician earns on average zł 34,668 in Poland, and € 51,144 in Germany. On the basis of Stapel et al. (2004: 1) these wages can be transferred to PPS: Poland has a PPP of 46, Germany of 109 (EU-25 = 100). Thus the comparable wage for Poland is 15,947 PPS and 55,747 PPS for Germany.

Both sources do not distinguish between self-employed physicians and those employed by others. This is a deficit but can be ignored here because the relations of self-employed physicians to employed physicians are nearly identical for Germany and Poland: 43.82 per cent self-employed in Germany and 44.55 per cent in Poland (Polish medical chamber 2005; Bundesärztekammer 2005; own calculations). To be able to calculate the migration profit it is necessary to make some ad hoc assumptions; this analysis shall focus on the most attractive group

Table 1 *Gross annual earnings for professionals in Poland and Germany*

Age	Poland	Germany
up to 30	12,796	39,889
30 to 39	15,786	55,107
40 to 49	15,902	63,710
50 to 59	17,092	66,607
60 and older	20,606	68,844

Source: Eurostat (2005); data for 2002 in PPS

of immigrants, the young professionals staying in Germany until they retire. Thus only doctors arriving at the age of 27 and retiring at 65 are taken into consideration. They are expected to be perfectly informed[17] and they are working as doctors in Germany and Poland. They do not commute between Poland and Germany[18] and they have a personal interest rate (*r*) of 0.02 or 0.15. Calculating on the basis of equation 4, the *PVM* is carried out as follows:

Table 2 *PVM for Polish 'professionals' and 'general physicians'*

	Professionals	General Physicians
$r = 0.02$	1,166,140	1,073,384
$r = 0.15$	278,532	303,627

Source: author's calculations; emigrating at 27 years of age and retiring at 65; Eurostat (2005); ILO (2005); data for 2002 in PPS for gross annual earnings

The figures shown in table 2 seem to demonstrate an enormous benefit of migrating. To emigrate and work in Germany supposes a difference of nearly 1.2 million PPS (Professional; $r = 0.02$) in a working lifetime. For the same amount of time the doctor would have earned only 629,218 PPS by staying in Poland. This huge migration profit, which diminishes when migrating at a higher age, might lead to the conclusion that young doctors are extremely willing to emigrate. The profit of 1.2 million PPS is tied to the fact that the individual strongly takes the future earnings into account. If an individual does not do this, the second figure ($r = 0.15$) is more realistic and, looking at the table, one can see that the PVM has notably shrunk. If the individual cares less about future incomes (e.g. $r = 0.5$) the migration profit will diminish dramatically and the feasibility to migrate will substantially decrease (see Straubhaar 2000: 17). A further assumption might concern the way individuals deal with wage differentials: The doctors might expect the Polish wages to rise in the future. This would result in lower migration profits and thus result in them staying (see Hunt 2000: 17). When calculating with a convergence rate of 2 per cent[19] it can be shown that doctors might be less willing to move, as demonstrated in table 3.

Table 3 *PVM expecting a convergence rate of 2 per cent*

	Professionals	General physicians
$r = 0.02$	755,692 [- 35%]	726,873 [- 32%]
$r = 0.15$	236,156 [- 15%]	264,288 [- 13%]

Source: author's calculations; emigrating at 27 years of age and retiring at 65; Eurostat (2005); ILO (2005); data for 2002 in PPS for gross annual earnings; in brackets: percentage loss compared with table 2 above

A lack of job opportunities is often named as the main reason for migration. Transferred to the theoretical framework developed here, doctors may compare the wages on offer in the different countries with the probability of really earning them. Thus, equation 4 has to be modified as following:

$$(5) \quad PVM = \sum_{t=0}^{E} \frac{(w_t^G * U^G) - (w_t^P * U^P)}{(1+r)^t}.$$

U^G and U^Prepresent 100 per cent minus the unemployment rate. One might think that unemployment in Poland obliges Polish doctors to migrate to Germany. But the opposite is true. The Polish medical association answered on personal request (Polish medical association 2005) that, for example, in April 2004, 122,331 doctors were registered, 65,824 of whom were self-employed and 81,917 were employed by others. For 2005, the association estimated that 34,644 doctors had more than one job. Therefore unemployment of Polish doctors does not exist or is not documented. In Germany the unemployment rate for female doctors is 5.3 per cent and 2.68 per cent for men (author's calculations, Bundesagentur 2005b) compared to 0 per cent in Poland. When these rates are used, the migration profit turns out to be lower. This is shown in table 4.

The decreased possibility to gain profit from wage differentials will also reduce the will to migrate. When taking into consideration the convergence rate and the gender-related unemployment rate, women for example might see their migration profit shrink by 43 per cent. It is therefore much more unlikely that they will move.

Wage differentials can additionally be interpreted under another perspective. The framework mentioned above refers to the so-called 'absolute wage differentials', the comparison between one profession in two countries. Stark (1991: 143) concluded that 'relative wage differentials'– this means a comparison of wage difference between one's own profession and that of other professions both in the home country and the destination country – might be even more important. Table 5 demon-

Table 4 *PVM with convergence rate and gender-related unemployment rates*

	Professionals	General Physicians
Women / $r = 0.02$	669,581 [- 43%]	646,126 [- 40%]
Women / $r = 0.15$	215,121 [- 23%]	241,447 [- 20%]
Men / $r = 0.02$	712,717 [- 39%]	686,580 [- 36%]
Men / $r = 0.15$	225,658 [- 19%]	252,890 [- 17%]

Source: author's calculations; emigrating at 27 years of age and retiring at 65; Eurostat (2005); ILO (2005); data for 2002 in PPS for gross annual earnings; in brackets: percentage loss compared with table 2 on previous page

strates that Polish doctors are better off in Germany when the relative wage differentials are considered:

Table 5 *Wages and wage relations for selected professions*

Profession	Poland	Germany	Relation P/G
Legislators, senior officials and managers	27,169 **(2.32)**	64,403 **(1.92)**	2.37
Professionals	15,634 **(1.33)**	58,741 **(1.76)**	3.76
Average domestic wage	11,731 **(1)**	33,461 **(1)**	2.85
Elementary occupations	6,868 **(0.59)**	23,881 **(0.71)**	3.48

Source: author's calculations; Eurostat (2005); data in PPS for 2002 for gross annual earnings; bold: relation to the average domestic wage; last column: wage relation between Poland and Germany

While in Poland, professionals earn only 1.33 times the average wage, in Germany this is almost double the amount. When comparing the wage structure between Germany and Poland, it is obvious that professionals, with 3.76 times higher earnings in Germany, will be more strongly motivated to migrate than individuals working in other professions.

3.2 Better working conditions in Germany

Working conditions are not a pull factor into Germany but a push factor out of Poland and should be taken into consideration because of their importance in the migration decision (see Fassmann 2002: 79). But trying to make working conditions countable and thus comparable in the sense of wage differentials is unpromising. In any case, some selected figures might provide us here with some useful hints. In Poland the costs for the health care system add up to just 6 per cent of the gross national product; this compares to 11.1 per cent in Germany. Every Polish citizen spends 667 PPS on health care each year, in Germany the figure is more than four times higher at 2,996 PPS. Logically, the ratio of doctors in Poland is much lower at 2.5 (for every 1,000 inhabitants) than in Germany, where this figure is 3.4 (OECD 2005). Polish hospitals work near bankruptcy and have been written out of debts three times since 1989. Some companies have even refused to provide hospitals with pharmaceuticals (Grunenberg 2004: 2-3). Hospitals in Poland are worse equipped than those in Hungary or the Czech Republic (Girouard & Imai 2000: 13).

Moreover, Polish graduates suffer from a lack of training positions for medical specialists, which are normally the next step after having

graduated.[20] Konstanty Radziwiłł from the Polish medical association estimates that not even half of the Polish graduates have the chance to qualify as a medical specialist in Poland (*Gazeta Wyborcza* 2004). In Germany the hospitals are seeking young doctors willing to work as senior house officers, a position that is bound to a qualification as a medical specialist (Bundesagentur 2005a: 15). So the lack of training positions and the lack of good working conditions in Poland provide, alongside the mentioned wage differentials further incentives to migrate to Germany.

3.3 Recent amendments in German immigration law which influence the immigration decision

In order to profit from the migration benefit in Germany, Polish doctors need a work permit (§ 284 para. 1, 2 Sozialgesetzbuch III). Since the recruitment ban of 1973, the conditions for foreign employees wishing to obtain a work permit have been restrictive. Equivalent German or European employees have been favoured and the German Federal Employment Office had to prove that no negative consequences could be anticipated by hiring foreign workers (§ 285 para. 1 Sozialgesetzbuch III). Further to this, the local employment centre has had to check if there are special regional or economic interests for hiring the potential employees (§ 8 Arbeitsaufenthaltsverordnung).[21] Because Germany deferred the freedom of movement for Polish employees in the EU, only a few things have changed since 1973. Since 2004, Poles belong to the privileged group of EU citizens and are thus favoured with respect to third country nationals (§ 285 para. 3 Sozialgesetzbuch III). But EU citizens from non-accession countries still have to be taken first.[22] Some changes arose with the Immigration Act of 2005 (*Act to Control and Restrict Immigration and to Regulate the Residence and Integration of EU Citizens and Foreigners*):[23] work permits issued can be renewed automatically after one year if the individual still has a work contract (§ 6 Beschäftigungsverfahrensverordnung). Since 2005 the German Federal Employment Office has the possibility to generally allow immigration for certain professions (known in German as a *Globalprüfung*, § 39 para. 2 sent. 2 Aufenthaltsgesetz (AufenthaltsG)). The regional offices do not have to perform any additional checks.

Settling in Germany as a foreign self-employed doctor was difficult before 2004. The aliens department could decide on a discretionary basis whether to grant members of this group a work permit or not, (§ 15 in conjunction with § 7 para. 1 Ausländergesetz (AuslG)) which normally meant that no work permits were issued for labour market reasons.[24] This situation changed completely with the accession of Poland to the EU because Germany did not restrict the freedom of movement

of self-employed people (cf. § 1 para. 1 No. 2 Aufenthaltsgesetz/EWG (AufenthG/EWG)).

Taking into consideration the findings above related to the theory of wage differentials, some conclusions can be drawn. For self-employed doctors, all obstacles have been abandoned. In contrast to this is the situation for doctors as employees: by deferring the freedom of movement for employees, the decision as to who will enter the German labour market is still taken (rather restrictively) by local authorities and not by the employer (in this case, the hospitals). This will in any case result in Polish doctors (the potential employees) having to wait until 2009, when freedom of movement is no longer limited for Polish workers. Given the background of wage convergence, this means that the wage differences at that time will not be as large as they are today. Thus, the probability that the doctor will still want to come to Germany will decrease because the incentives will be lower than they were before. Many doctors may also decide in the meantime to move to countries with even higher wage levels, such as France, Sweden or Great Britain. If the shortage of doctors worsens in the coming years, this might cause problems because there might not be any doctors left who are willing to immigrate to Germany.

A positive instrument in contrast is the possibility to generally allow immigration for certain professions (*Globalprüfung*). An analysis of this sort would mean that bureaucratic expenditures would be removed, as each application for a work permit would not need to be checked once again. This is not only beneficial for the authorities but for the doctors as well, because bureaucratic costs lower profits from migration. The other possibility, renewing extending work permits each year without having to check them again, can also be considered a positive development. From the doctors' viewpoint, this guarantees the calculated migration profit and eliminates the risk of having to return a year after having migrated.

4 Barriers for Polish doctors to emigrate to Germany and the influence of recent amendments in law

Wage differentials tend to be overestimated due to their visibility. Straubhaar (2000: 9), however, states that most humans are immobile and only 2 per cent of the whole world's population live outside their native countries. Even the chance to move freely within Europe is only taken up by 1.5 per cent of the continent's inhabitants (Kiel & Werner 1998). The reasons for not migrating are inherent and not visible. Following Straubhaar they can be seen as insider advantages that might be lost following migrating. To put it another way: migration results

not only in chances but also brings costs for the individual that function as barriers to migration. A rationally acting doctor will not only look at the possible profit on offer from migration but will also take the following potential costs into account: monetary costs, the loss of cultural and regional knowledge, lower wages due to certification that is not recognised and lost earnings for the spouse.[25]

4.1 Monetary costs

Monetary costs occur in different ways (e.g. for notarisations, for registering one's car and, of course, for the relocation itself). They are obviously too individual and too small to be fully examined in this framework. More relevant are the costs for self-employed doctors when opening their own surgery in Germany. To start a new surgery costs up to EUR 124,287 (West; East: EUR 89,023), an acquisition EUR 195,406 (West; East: EUR 124,082) and joining a group practice EUR 225,555 (data only available for West Germany) (Deutsche Apotheker- und Ärztebank & Zentralinstitut für die kassenärztliche Versorgung 2006: 5). To migrate to Germany, therefore, is also a question of how much the potential migrant has earned before migrating (at lower Polish wages). Older people might have a better financial background, but the migration incentives for them are weaker because they will profit from wage differentials for only few years. Younger people are willing to migrate because of high migration profits but often they lack the financial background.

4.2 Loss of cultural and regional knowledge

Cultural and regional knowledge shall be defined as the entire knowledge of regulations, laws, insider information and such that is individually gained by living in a certain culture or living in a specific place during a specific period. This knowledge will get lost with migration. It can be for example much more difficult to prepare for a German job interview than for a Polish one or more problems might occur when looking for vacant positions in the foreign country (Germany) than in Poland. At a private level, other costs exist, such as the lost insider knowledge regarding what to do in leisure time, which public services are available or the absence of personal friends. Therefore, potential migrants will tend to search for countries with a similar culture (Pedersen, Pytlikova & Smith 2004). Alternatively the foreign cultural knowledge can be gained from former migrants. Massey, Arango, Hugo, Kouaouci, Pellegrino and Taylor (1993: 448) define these so-called ethnic networks as '[...] sets of interpersonal ties that connect migrants, former migrants, and potential migrants in origin and destination

Table 6 *The three most important receiving countries for Polish emigrants*

	1981-1988	1989	1990	1991	1992	1995	1998	2000	2001	2002	2003
Germany	58.2	69.8	62	69.1	71	68.9	72.7	75.8	72.3	72.1	72.6
USA	9.6	10.4	13.5	10.3	10.8	12.1	10	9.5	10.6	11.8	10.9
Austria	4.7	2	1	1.5	1.4	2.4	3.4	2	1.3	1.7	2.1

Source: author's calculations; Wysokińska (2002: 8); Kępińska (2004: 44); figures show the percentage of all Polish emigrants

areas through ties of kinship, friendship, and shared community origin. They increase the likelihood of international movements because they lower the costs and risk of movement [...]'.

The more migrants from the same country individuals can potentially meet in the receiving country, the more likely they are to migrate (Dietz 1999: 8). Thus, it is worth looking at the Polish population in Germany. The Poles are one big group within the foreign population in Germany, making up 4.5 per cent of the total foreign population of the country (Bundesamt für Migration und Flüchtlinge 2005). Further to this, they represent the largest immigration group from the last five years, with 490,687 out of a total of 4,205,961 immigrants. Table 6 additionally shows that Germany is the most important receiving country for Polish emigrants.

Germany was definitely the most important receiving country for Polish emigrants in the last decade, a trend which has grown stronger up until today, while the number of Poles migrating to Austria, for example, has declined. The effect of Polish networks working against the loss of cultural knowledge can thus be regarded as being strong. Unfortunately they are not as strong in the *New Länder* where the shortage of doctors is at its greatest. Hamburg has the largest percentage of Polish inhabitants; this figure makes up 0.87 per cent of the city's total population. The lowest percentages can be found in the *New Länder*, where Brandenburg, with just 0.25 per cent, has the highest rate (author's calculations; Statistisches Bundesamt 2006a, 2006b).

There have been only small changes in the legal basis aimed at avoiding the loss of cultural capital. Since the accession of Poland as a member of the EU, those Poles who have reached the age of 65, have been living in Germany for the last three years, and have worked for a minimum of one year, have the right to stay in Germany (*Verbleibeberechtigter*, § 1 para. 1 No. 5 in conjunction with § 6a AufenthG/EWG). This means that these people are not at risk of losing the knowledge they have gained in Germany by being forced to return to Poland after retiring, as was previously the case. Since the Immigration Act, Poles are also allowed in some cases to participate in integration courses that con-

sist of language as well as cultural or historical lessons. But this is only possible if there are places vacant in the courses (§ 44 para. 4 AufenthG; § 43 AufenthG). Further to this, they are not entitled to participate if they are able to speak German (§ 44 para. 3 AufenthG). A command of the German language is obligatory for foreign doctors if they want to be issued a German medical licence (Approbation) (Auslandsdienst Bundesärztekammer 2005). Hence these laws do not affect Polish doctors themselves but might be interesting for their family members.

4.3 Legalisation of certificates

In order to work in Germany a medical licence is required, which is normally acquired during a six-year-long vocational study with training phases. Afterwards the graduates often choose to qualify as medical specialists because this opens up the opportunity of running their own surgery. If the Polish qualification is not recognised as being equal to German qualifications or the certificates (medical licence or certification as a specialist) are not recognised at all, the doctors will not be able to gain the migration profits: employees might have to work for lower wages because they have to prove their knowledge first (see Kruger & Sauer 2002; Borjas 2000b: 233-235). Self-employed doctors are only allowed to treat private patients (Becker-Berke & Lautwein-Reinhard 2004). Most doctors who run a surgery with only private patients generally have worked for a long time in the country, and thereby this alternative is nearly hopeless for new doctors (Auslandsdienst Bundesärztekammer 2005). Before the accession of Poland as a member of the EU, Polish doctors were not able to get a medical licence. They were only allowed to work in Germany on the basis of a concession (*Erlaubnis*), which was regularly limited to four years and to certain activities (§ 10 para. 1, 2 Bundesärzteordnung). Due to the poor level of their qualifications, Polish medical specialists' certificates were very rarely recognised in Germany as being equivalent to their German counterparts. These regulations made it unlikely that employed Polish doctors were able to obtain German wages or, when self-employed, also treat statutory health insurance patients (Popovic 2000: B-749; Auslandsdienst Bundesärztekammer 2005).

This situation totally changed with the expansion of the EU. Since then, Polish doctors have been able to acquire German medical licences (§ 3 para. 1 No. 1 Bundesärzteordnung), and the legalisation of diplomas and specialist certificates has been harmonised throughout the EU (Directive 93/16/EEC; Directive 97/50/EC; Directive 2005/36/EC). Whereas it was once nearly impossible for Poles to reach the German wage level before the expansion, they can now calculate that they will work for German wages and hence make use of the migration profit.

4.4 Family migration

To leave the spouse (and perhaps also the children) back in Poland can be seen as one of the strongest forces holding a person back from migrating. The migration profit of the family (PVM_{Family}) is given as the sum of the individual profits and losses from migration of the (normally) two employed members of the household. If PVM_{Family} is positive the family might migrate. If only one member of the family is allowed to work in Germany the possibility that PVM_{Family} shrinks (and maybe turns into a migration loss) is high because the potential loss of one spouse is subtracted from the migration profit of the other one. So the profit of one spouse has to exceed the potential loss of the other one. Therefore, the missing opportunity for the spouse to work will make the migration more unlikely or even lead to the decision not to migrate if PVM_{Family} is negative (see Borjas 2000b: 309-312; Mincer 1978: 758-760; Sandell 1977: 410-411).

This was a possible case before the expansion. Family unification was allowed for self-employed doctors as well as for employees. It was just necessary to prove that there was enough living space and that the earnings of one spouse guaranteed a sufficient living standard for all family members (§ 17 AuslG). But the right to work had to be requested by the spouse separately and was subject to prior approval. Hence the family could not calculate if both people would be allowed to work. With Poland as a new member of the EU, there have been more or less no changes for the employees – but big changes for the self-employed (Peters 2005: 89-90). The spouse of the self-employed doctor is generally allowed to work in Germany (self-employed or as an employee) even if he or she is a third country national (Dienelt 2004: 394).

If wage differentials are the forces that lead Polish doctors to migrate to Germany, the inability of the partner to work will hold them back because it reduces the migration profit enormously. With Poland's accession nothing has changed for employees and they will, if they are not prepared to burden the costs of living separately, probably stay together in Poland. By giving the spouses of self-employed doctors the right to work, the idea of changing their place of location will become much more appetising.

5 Conclusion and comments

Germany, defining itself as a non-immigration country (*Nichteinwanderungsland*), has struggled for a long time with the topic of immigration. This situation should have changed with the German Immigration

Act of 2005. This package should have given Germany the most progressive immigration law in Europe. Further to this, Poland became a member of the EU (in 2004) and thereby its citizens would have normally acquired the right to move freely within EU borders. Germany chose not to give Polish employees this chance. These developments lead to the question if one can speak of a real change in the way Germany 'thinks' about immigration. One way of coming to an answer is to analyse if potential immigrants tend to be more willing to migrate to Germany since all the recent changes in law. This paper focuses on doctors as a professional group. For sure there are more professions for which the economy or the society is experiencing a lack of qualified workers and is in need of immigration.[26] But this profession functions as one extremely obvious example for an area in which immigration should be allowed because no pressure on the domestic wages can be expected. Further immigration is one way of increasing the size of the workforce in the medium term for this notably specialist profession. To repeat: if there were a change in the German immigration strategy for economic reasons, it should be notable for immigrants working in this profession.

Looking at the findings derived from the theoretical framework above, one can conclude that the amendments in law had a major influence on the migration incentives. In various ways, Germany shifted the feasibility for Polish doctors to benefit from the wage differentials between the two countries and thus influenced their migration decision. First of all is the abandonment of the freedom of movement for Polish employees that lowers or eliminates the potential migration profit and thus holds back the doctors from emigration or forces them to look for other destinations. Against the background of this decision the fact that Poles are now favoured over third country nationals (a change which is based on EU law) and the possibility to automatically renew work permits after one year seem to be more or less weak instruments, as well as the possibility that the German Federal Employment Office can generally allow immigration for certain professions. Germany did, however, allow freedom of movement for self-employed doctors. The government's influence on the field of the above-mentioned general working conditions must be assessed as a limited one in any event.

A couple of amendments in law will theoretically influence the migration obstacles that hold doctors back from moving to Germany: the easier legalisation of certificates, the possible work permits for spouses of self-employed doctors and the now-granted right to stay after retiring are all facts that will make it easier to decide to come to Germany. But: all of these changes trace back to European legislation. The integration courses are the only genuine German amendment and, as was shown

above, these are not particularly interesting for doctors as a professional group.

This paper strongly focused on the theory of wage differentials for analysing the main motivation of migration: to gain a higher wage in the receiving country or, additionally, to be able to work in better conditions. The nation-state should not or cannot exert influence on the wage level and working conditions. But the nation-state is able to abolish bureaucratic or legal obstacles that hinder the migration process of each individual. To sum up, there have been several changes in laws promoting the decision of Polish doctors to migrate to Germany. But they also show clearly that most of the influential changes have been conducted at a European level. Furthermore, with the limitation of the free movement of employees, Germany thereby obliges willing immigrants to stay in Poland (not to speak of the moral message Germany is conveying). The German-driven changes (to extend the work permits, to generally allow immigration for certain professions) can be seen as just the beginning of a progressive immigration law that selects immigrants based on economic criteria. But one large point – especially for Germany – is still missing: that of selecting the migrants because of their age. The theory dictates that young migrants are more willing to migrate – but this is not guaranteed. Neither the employers in the hospitals nor the patients themselves care how old each immigrated doctor is. But the welfare system instructs the political system to care not only about the professions but also about the age of the immigrants. In conclusion, it seems to be far too early to speak of a change in the German attitude towards immigration, something also reflected in a change of law. It seems to be more realistic to speak of a gradual movement.

Notes

1 The author wishes to thank Duncan Cooper for his helpful comments.

2 To answer this question it would have been also possible to examine doctors from other countries, but as the analysis in chapters three and four is based on real figures, a decision for a certain nationality had to be taken.

3 The Health Care Structure Act was a major reform of the German health care system and came into effect on 1 January 1993, at the heart of which was an organisational overhaul of the statutory health insurance system. The aim was to preserve the subdivision of the insurance system while providing for greater fairness in contribution rates and more competition between the health insurance funds.

4 Working overtime seems to be an everyday phenomenon in hospitals. According to the 'Marburger Bund', hospital-based physicians work about 50 million hours extra per year (Graupner 2005). This would mean seven additional hours per week for each person.

5 In Sweden, a physician can earn up to US$ 56,543 per year, in Great Britain US$ 127,285 and US$ 104,056 in France. In Germany the amount is much lower at US$ 35,465 (Finke 2005).

6 This is due to the fact that, in the New Länder, incomes for doctors are significantly lower than in West Germany. This refers both to self-employed doctors, for whom wages are average about 20 per cent lower (Ärztezeitung 2005), as well as to doctors employed in hospitals or other organisations (Süddeutsche Zeitung 2006).

7 The 300 German professions are filtered four times due to certain criteria. The profession *doctor*, with an unemployment rate of 4 per cent, a vacancy rate of 2.3 per cent, a growing employment rate of plus 52.6 per cent and with 94 per cent of all members being academics, succeeds in all filters (Institut der deutschen Wirtschaft 2004). Zimmermann et al. (2001) use similar criteria.

8 Numerous studies have proved this thesis, see e.g. for many others Greenwood and McDowell (1991: 619-621) with data for the US and Canada (1962-1984), Borjas (2001) with data from 1960 to 1990 for the US and, for Germany, Brücker and Trübswetter (2004: 29).

9 Human capital in this context is defined as the sum of knowledge and characteristics influencing the wage level.

10 Due to easier reading in the further text, only the male form will be used.

11 For the equations in this chapter see Borjas (2000b: 304).

12 For a discussion of the principles of present value and interest rates see Frank (2000: 166-175).

13 The category (2221) *Medical doctors* is a sub-category of the category (2) *Professionals* – (22) *Life science and health professionals* – (222) *Health professionals except nursing*. Eurostat uses the categorisation of the International Labour Organization (ILO) (1988).

14 Eurostat answered an inquiry from the author (2005a), stating that data from a less aggregated level is not collected.

15 Wages here are shown in PPS. PPS are the units of account of purchasing power parities (PPP). With PPP different wages can be made comparable by converting them into the artificial currency PPS (cf. Stapel, Pasanen & Reinecke 2004).

16 The profession 'general physician' that comes close to the German 'Allgemeinarzt' is a subgroup of the 'medical doctors' (see the United Nations Department of Economic and Social Affairs 2005).

17 Due to information via internet and the varying exchanges between the medical associations in Poland and Germany, this seems to be more and more realistic (Kloiber 2002: 413).

18 To work in Germany and commute back everyday or every weekend is a different matter. Exchange rates would be interesting for this form of migration profits instead of PPS (see Sinn et al. 2000: 32-34).

19 A convergence rate of 2 per cent means that the difference between wages in Germany and Poland reduces by 2 per cent each year after accession (see Boeri & Brücker 2001: 98; Vincentz & Knogler 2003: 8)

20 The qualification as a medical specialist is necessary to open up a surgery (see section 4.3).

21 The versions of the laws mentioned here can be found, for example, in Kittner (2002).

22 The version of § 285 para. 3 Sozialgesetzbuch III, effective from 1 May 2004 until 1 January 2005, can be found in Kloesel, Christ and Häußer (2004).

23 The laws emanating from the Immigration Act can be found in Storr and Albrecht 2005: 37-127.

24 See Storr, Wenger, Eberle, Albrecht and Zimmermann-Kreher (2005), vol. 1: '§ 7 AuslG, Begründung zum Gesetzentwurf' as well as the corresponding marginal notes 1, 9, 16, 2; further '§ 15 AuslG Kommentar', here: marginal note 18.
25 If it would be possible to express these costs in figures it might be also possible to incorporate them in equation 4 and subtract them from the *PVM*. But they are too individual, or in some cases, not describable through figures.
26 See for example Bovensiepen (2007) and Süddeutsche Zeitung (2007) for a debate about engineers.

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Educational Selectivity and Labour Market Attainment of Jewish Immigrants from the Former Soviet Union in Israel and Germany in the 1990s[1]

Irena Kogan and Yinon Cohen

1 Introduction

Since the breakdown of the Soviet Union in the late 1980s, about 1.5 million Jewish emigrants left the country to various destinations in Western Europe, North America, and Israel. The vast majority of them (about one million) headed to Israel, which declared its aim to admit as many Jewish immigrants as possible irrespective of their socio-demographic background (Cohen 2002). Moreover, the Israeli government actively attracted and assisted immigrants from the former Soviet Union (FSU) to immigrate to Israel. However, almost as soon as the Jewish exodus from the FSU began, Germany declared its willingness to accept Jewish immigrants from the former Soviet Union. Thereafter about 200,000 Jews from the FSU and their family members, including non-Jews, entered Germany as refugees, an option available to all FSU Jews. The proportion of FSU emigrants heading to Germany has been steadily growing throughout the 1990s. In 2002 Germany accepted more FSU Jewish immigrants than any other country, including Israel.

This paper explores the labour market situation of Jewish immigrants from the FSU in Israel and in Germany during the 1990s. The unique circumstances of Jewish immigration from the FSU to Germany and Israel in the past fifteen years, where immigrants were granted practically free entry to both countries, enable us to conduct a rigorous comparison of patterns of immigrants' economic integration. The comparison of Jewish immigrants in both countries allows us, first, to analyse patterns of immigrant self-selection to each of the destination countries, and, second, to reveal how receiving societies' structural and institutional characteristics affect immigrant labour market attainment. In particular, we explore the role of immigration policies, including public assistance and settlement programs, as well as labour market structures for immigrant labour market chances in host societies (Reitz 1998, 2003; Freeman & Ögelman 2000; Kogan 2003).

In the following section we describe the Israeli and German settings, in particular, immigration policies and labour market structures channelling labour market careers of FSU Jewish immigrants, as well as education-job linkages and ensuing returns on education acquired abroad. In section three we develop hypotheses regarding selectivity patterns and labour market integration, especially for the differential effects of immigrant status and education. Section four presents the data, section five the results, and the last section discusses the main findings and their implications.

2 Israeli and German immigration policies and labour markets

Immigration of Jews to Germany started when the last East German government declared in July 1990 its willingness to accept Jews from the Soviet Union who had experienced anti-Semitism and discrimination in their home countries. Since 1991 this practice has been extended to the united Germany, where FSU Jews were granted the status of the Jewish Quota Refugees (JQR). These were defined as people with at least one Jewish parent, as well as their immediate family members, including non-Jewish spouses and dependent children (Gruber & Rüßler 2002; Dietz 2000; Becker 2001). The German definition is somewhat more restrictive than the Israeli Law of Return, which defines Jews as people with at least one Jewish grandparent (see table 1 for the characteristics of the Israeli and German contexts).

Germany's policy is to distribute Jewish quota immigrants, as well as ethnic Germans (*Aussiedler*), across the entire country (Harris 1999).

Table 1 *The Israeli and German institutional contexts with regard to FSU Jewish immigrants*

		Israel	**Germany**
Definition		Jewish grandparent(s)	Jewish parent(s)
Settlement		No restrictions	Assigned to a federal state
Citizenship		Immediate	After 6-8 years of residence
Welfare assistance	First year	Similar: monetary assistance, housing support, language courses	
	Afterwards	Lower (3-7 times lower than in Germany in PPP)	Higher (higher social security benefits)
Recognition of education		Greater efforts to recognise education from abroad	Practically no efforts to recognise education from abroad
Labour market		More flexible	Less flexible

This is done in order for federal states (*Bundesländer*) to share the burden of costs and responsibilities connected to immigrant integration. In fact, most of the newcomers' financial benefits are conditional on their remaining where they are sent, even though individuals are free to take up residence in any part of the German Federal Republic. Israel also practiced the same policy up to the 1980s, but when the recent wave of FSU immigrants arrived in 1990, immigrant settlement was relinquished to the market forces, which were thought to be more efficient than the state in dealing with immigrants' residential locations (Doron & Kargar 1993).

Whereas Israel grants citizenship to FSU Jewish immigrants upon arrival,[2] JQR are not immediately entitled to the German citizenship. Rather they must reside in Germany for six to eight years before they are eligible to apply for the German citizenship.[3] The latter is extremely important for labour market performance, as it opens a wider range of employment opportunities, including public sector employment, including teaching and public servants' positions, and warrants fewer obstacles to self-employment (Heckmann 2003).

Available evidence suggests that JQR in Germany are entitled to more generous welfare assistance than their counterparts who immigrated to Israel (Cohen & Kogan 2005). The value of the German package is much higher than the value of the Israeli one (in both absolute value and purchasing power parity), and, more importantly, it lasts for a longer period. Similar to FSU immigrants in Israel, JQR in Germany receive an unlimited residence permit, permission to work, housing support and assistance during the first six months in the country, along with a state-provided language course of the same duration. However, JQR in Germany are in addition eligible for social security benefits if they have not been able to find work after their initial assistance has expired.

It should be mentioned at the same time that, unlike in Israel, educational credentials of JQR are not automatically recognised in Germany (Harris 1999). Not to be mistaken, in Israel credentials from the FSU were also found to be problematic for labour market assimilation (Friedberg 2000), but greater consideration is given to immigrants' foreign diplomas (Lewin-Epstein et al. 2003). In this regard it should be noted that since education plays a more important role for job allocation in Germany than in Israel (Shavit & Müller 1998),[4] more serious consequences could arise from unrecognised foreign credentials for immigrant labour market integration in Germany than in Israel.

The two countries under discussion differ not only with respect to immigration policies, the amount and length of the welfare assistance extended to immigrants and the extent of the devaluation of their educational credentials, but also in employment regulations and the gener-

al rigidity of the labour market. The Israeli labour market in the observed period of the 1990s was certainly less rigid than the German. In fact, until not long ago the Israeli labour market was also relatively inflexible – most workers were covered by labour unions and enjoyed job security – and the labour market was regulated in corporatist arrangements (Cohen et al. 2003). Since 1985, however, the Israeli labour market has been undergoing a process of economic liberalisation. Consequently, the proportion of low-wage workers is much higher in Israel than in Germany (Mundlak 2004), and the level of earnings inequality, which could be considered as a proxy for returns on skills, in Israel is similar to the level in the most unequal developed countries such as the United States, the United Kingdom and New Zealand. By contrast, the German labour market is still rather rigid, and earnings inequality in Germany is relatively modest (Gottschalk & Smeeding 1997).

3 Hypotheses

Differences between Israel and Germany with regard to their immigration policies towards FSU Jews, their labour market structure and welfare regulations, can be translated into a number of hypotheses as for immigrants' self-selection, patterns of their labour market integration and the way their educational qualifications might be evaluated.

Immigrants' destination choices are likely to be affected by institutional packages of the receiving countries. Borjas (1990; 1994) argues that positive selection for skills is expected of immigrants from relatively egalitarian countries (e.g. Germany) to more unequal counties (e.g. the US or Israel), where highly skilled immigrants can enjoy greater returns on their skills. By contrast, negative selection of immigrants is expected from relatively unequal to more equal countries, where the (welfare) state protects the less skilled. Hence, we expect Germany to be more attractive for less-skilled immigrants, those who might expect to rely on welfare assistance for a longer period. Highly skilled immigrants, who are expected to care less about public assistance and more about labour force options, including the rate of return on skills and advancement possibilities, should find Israel a more attractive option. Hence, to the extent that economic factors determine immigrants' destination choices, immigrants choosing Israel should possess higher educational qualifications than their counterparts heading to Germany.

In terms of labour market integration the following arguments with respect to the German and Israeli labour markets seem relevant. Upon their entry into the labour market, immigrants face reservations from their prospective employers. In relatively rigid labour markets, like the

German one, with its higher dismissal costs, employers tend to set higher hiring standards (Cohen & Pfeffer 1986) and look for clear signals of appropriate skills in order to reduce the risk of a bad match (Gieseke & Groß 2003; Gangl 2003; Kogan 2004). Immigrant status might be equalled with a negative signal. Since high costs of a bad match in the German labour market are hardly compensated by low entry wages, German employers would try to avoid hiring 'risky' immigrant workers who might result in a higher threat of statistical or error discrimination for immigrants in Germany. In Israel, a country with lower job security and low dismissal costs, employers should worry less about a bad match and be less reluctant to employ immigrant workers.

In addition, immigrant job seekers themselves are less likely to rush into any type of employment in Germany being entitled to more generous and long-lasting welfare assistance. Indeed, the availability of public support enables them to search longer for employment opportunities that better match their educational qualifications, which might, however, result in higher immigrant unemployment rates in Germany. At the same time, however, immigrants should be more likely to enter jobs of a higher status than their counterparts who chose to immigrate to Israel. There the scarcity of resources for sustaining a search for better employment opportunities might push FSU immigrants to accept any type of employment, irrespective of its status. A likely outcome of this process is lower unemployment rates but also lower occupational standing among FSU Jews in Israel than in Germany.

The last hypothesis concerns the effect of educational credentials on immigrant economic progress in both countries. Immigrants with a foreign education that is not fully transferable to the host country usually receive lower returns on their educational investments compared to the native-born or immigrants who acquired their education in the destination country (Chiswick 1978). While it is reasonable to assume that skills acquired in the FSU are equally transferable to Germany and Israel, one could expect FSU immigrants to face greater difficulties in having their educational credentials recognised in Germany than in Israel (Harris 1999; Lewin-Epstein et al. 2003). To the extent that this is indeed the case, we expect immigrants with university and college diplomas to face greater difficulties in the German than in the Israeli labour market.

4 Data

To analyse the characteristics and labour market integration of FSU Jewish immigrants in Germany we use the 1996 and 2000 German micro-censuses. The German data are gathered annually and include

basic demographic characteristics, education and labour market information for a representative sample of 1 per cent of German households. The German micro-census unfortunately does not include information on respondents' country of birth, ethnic origin or religion, nor (for immigrants) about the legal status at migration (e.g. quota refugee or asylum seeker). However, it does include nationality and year of arrival, which makes it possible to identify immigrant populations, including FSU JQR (for the identification algorithm see Cohen & Kogan 2005). This identification algorithm yields a total of 223 and 314 JQR, aged 20-59, in the 1996 and 2000 German censuses, respectively. It should be noted, however, that the identification algorithm is by no means perfect, as among other things it underestimates two categories of JQR: first, very recent arrivals (arriving in 1996 in the data for the year 1996 and arriving in 2000 in the data for the year 2000) who might still have resided in public housing during the census week in May; and, second, very early arrivals, who were eligible by 1998 or 1999 to apply for German citizenship. Likewise it might include some non-Jewish students or seasonal workers from the FSU. However, the number of such immigrants should not be very high, because the census covers only private households, while students as well as seasonal workers often reside in collective households. Despite these difficulties, the census data are best suited for the analysis of the educational selectivity among FSU immigrants in Germany, as well as their integration patterns in comparison to their compatriots who immigrated to Israel.

For Israel we use the labour force surveys for the years 1996 and 2000. These surveys are conducted annually by the Israeli Central Bureau of Statistics and contain standard demographic and labour market information for representative samples of about 11,000 households, including about 23,000 individuals 15 years old and over (excluding people in institutions and Bedouins living outside communities). The identification of FSU immigrants in these surveys is straightforward and is based on the variable asking whether a person was born in the FSU and a variable for a year of immigration. This yields a total of 9,350 and 10,617 FSU Jews aged 20-59, in the 1996 and 2000 Israeli labour force surveys, respectively. Due to their standardised design and representative nature these surveys could be compared to the German census data, thus allowing us to adequately analyse patterns of immigrants' self-selection and their labour market integration in both countries. Appendix A presents a description of all variables used in the analyses.

5 Findings

5.1 Educational selectivity and labour market outcomes: descriptive evidence

Table 2 presents education and labour market characteristics of two immigrant cohorts, those arriving 1990-1995 in the year 1996 and those arriving 1996-2000 in the year 2000, that is immediately after arrival, and the native-born. The educational level that immigrants bring with them to the destination country, arguably the best-observed indicator of immigrant skills, should tell us much about the nature of selectivity that takes place during the migration process. Educational levels of immigrants from the FSU vary somewhat across the destination countries. The proportion of high-school dropouts, that is, people who completed compulsory education without attaining any vocational training, is similar for the earlier cohort of FSU immigrants in both countries, but differs for the more recent cohort. Among those who immigrated to Germany between 1996 and 1999, the number of those who are less educated is somewhat higher (18.4 per cent) than it is among the 1990-1995 cohort (16.8 per cent), and is higher than among their counterparts heading to Israel during the same period (15.4 per cent).

The proportion of university graduates choosing Israel and Germany in the early 1990s (column 1) is also quite similar: 39.4 per cent in Israel and 35.1 per cent in Germany, and is much higher than the respective proportions of the native populations in Israel (20.8 per cent) or Germany (13.8 per cent). It is further evident that the educational level of a more recent cohort in Germany (column 3) is not as high as the level among the earlier cohort. No decrease in educational selectivity for more recent FSU immigrants in Israel can, however, be detected. The fact that more recent and indeed a larger wave of FSU immigrants to Germany is less selective than those who headed to Israel could reflect immigrant self-selection. The later immigrant cohorts clearly possess more information on the contexts of immigrant reception and benefits they are entitled for in Germany, which might influence their decision making upon choosing their destination country.

As expected, the unemployment figures presented in table 2 demonstrate that the employment situation of new arrivals in Germany is far worse than in Israel. While in Israel the unemployment rate of 1990-1995 arrivals (column 1) is 8.0 per cent (only 1.3 points higher than the rate among natives in 1996, 6.7 per cent), it is 46.3 per cent in Germany (about 36 points higher than the rate among natives in that year, 10.1 per cent). Interestingly, and consistent with the educational findings, in Germany the unemployment levels of 1996-2000 arrivals (column 3) are higher than those of 1990-1995 arrivals (column 1), and the gap between immigrants and natives is even greater in 2000 than

Table 2 *Educational and labour market characteristics of native-born and FSU Jewish immigrants, ages twenty to 59, in Israel and Germany by period of immigration (for immigrants) and year of observation*

Year of observation:	Immigrated in 1990-1995	Native-born 1996	Immigrated in 1996-1999	Native-born 2000
With compulsory education:[a]				
Israel	15.5	10.6	15.4	10.6
Germany	16.8	11.5	18.4	9.5
Per cent with at least B.A.:[b]				
Israel	39.4	20.8	40.5	20.1
Germany	35.1	13.8	30.7	14.1
Per cent unemployment:				
Israel	8.0	6.7	14.7	8.1
Germany	46.3	10.1	58.5	9.1
Per cent unemployment with at least B.A.:				
Israel	7.4	3.0	15.5.6	3.4
Germany	34.6	5.1	64.3	4.0
Per cent in PTM occupations:[c]				
Israel	26.3	35.5	12.2	36.8
Germany	38.8	41.4	29.6	43.2

Source: Israel: Labor Force Surveys (1996, 2000); Germany: Micro-censuses (1996, 2000). See appendix A for definitions of all variables

[a] Those with Casmin 1ab, 2b, that is with compulsory education and without any further vocational training

[b] Those with at least a B.A. are people with Casmin 3a and 3b in Germany, and Casmin 3b in Israel (more than fifteen years of schooling and last school academic institution)

[c] Among those in employment

in 1996. In Israel, the unemployment rate among the native Israelis is somewhat higher in 2000 due to the economic slowdown; similarly higher is the employment disadvantage of the FSU immigrants, who seem to be hit particularly hard in the recession period.

We further present unemployment rates of FSU immigrants and the native-born with tertiary education in both countries in order to get an idea whether highly educated immigrants are particularly disadvantaged at employment entry. This appears to be indeed the case. While in Israel immigrants in general have 1.2 to 1.8 times higher unemployment rates than the native-born, among the tertiary educated the employment gap is about 2.5 to 4.6 times. A similar, but much more dramatic picture is observed for highly educated FSU immigrants in Germany. In general, FSU immigrants are about 4.6 to 6.4 times more

likely to be unemployed, depending on the migration cohort; the tertiary educated suffer a 6.8 to 16.0-fold penalty.

We hypothesised that due to the more substantial welfare support extended to FSU immigrants in Germany than in Israel, the former might be able to sustain a search for better-quality jobs, therefore displaying higher rates of employment in professional, technical, and managerial (PTM) occupations, together, however, with higher unemployment. In Israel low unemployment among FSU immigrants was expected to go hand in hand with lower rates of PTM employment. The data are consistent with these expectations. In their first years in Israel, only 26.9 per cent of the immigrants arriving in 1990-1995 (column 1) held PTM occupations, compared to 38.8 per cent in Germany. The proportion of immigrants holding prestigious PTM occupations declined in Germany among the 1996-2000 cohort, which is also consistent with the decrease in the education selectivity of the later arrivals. Despite the high educational levels, a similar decrease in the PTM employment rate for the more recent FSU immigrants in Israel is also noticeable.

All in all, with respect to selectivity, the findings regarding the most important measure of immigrant skills (education) do not show much difference between earlier immigrants either in Germany or in Israel. However, there is an indication that immigrants arriving in the second half of the 1990s in Germany appear to be less educated than their counterparts arriving in the early 1990s. This might point to a pattern of an increasing educational selectivity among the later immigrants who are likely to possess more precise information on institutional packages of the receiving societies. With respect to immigrants' labour market performance, the results are consistent with the hypotheses: unemployment rates are higher in Germany than in Israel, as is employment in high status occupations. The latter descriptive results might, however, be somewhat misleading since they do not take into account differences in the human capital characteristics of immigrants heading to Israel and Germany, which were detected in the analyses shown above.

5.2 Economic attainment: results of the multivariate analyses

In order to test the empirical status of the hypotheses regarding the net effects of immigrant status and immigrants' education on their labour market performance, we pooled surveys for each country for years 1996 and 2000 and ran binomial logistic regressions for unemployment propensity (odds of being unemployed vs. avoidance of unemployment) and occupational standing (odds of being in PTM occupa-

tions vs. other occupations) among natives and immigrants who arrived in each country during 1990-2000.

Table 3 presents the results (exponents of the *b*-coefficients) for Germany (column 1) and Israel (column 2) with regard to immigrants' employment chances. The models contain the net effects of immigrant status, controlling for basic socio-demographic characteristics (age, marital status and education), year of observation and tenure in the host country (years since migration, YSM). The exponent for being an FSU immigrant indicates the chances of an immigrant to be unemployed upon arrival, relative to a native-born person of the same measured characteristics. We also include an interaction term for tertiary educated immigrants in order to assess returns on credentials from FSU universities and colleges in the two countries under discussion.

The cross-national differences in the odds of unemployment for FSU immigrants are striking. Immediately upon arrival, FSU immigrants in Germany are about 35.5 times more likely to be unemployed than demographically comparable native-born. In Israel, FSU immigrants are also disadvantaged when they arrive, but their odds of unemployment are significantly less pronounced, being about 2.5 times greater than those of the natives. With the passage of time in the host country, the employment chances for FSU immigrants improve in both countries (note that the exponent for YSM is below 1), significantly more in Germany (0.67) than in Israel (0.88).

Educational level has been coded in categorical form using the CASMIN classification, which reflects the German educational system better than any other classification and therefore has been extensively used for studies including Germany (Brauns & Steinmann 1997; Shavit & Müller 1998). The ordinal character of the classification is clearly reflected in the effects of the dummy-coded variables. People with only compulsory education and without any vocational training are mostly disadvantaged with respect to employment. Having vocational training (in addition to secondary-level education) reduces the unemployment risk. The odds of unemployment are further reduced for people with post-secondary non-tertiary education (Casmin 3a in Israel) or lower-grade tertiary education in Germany. Interestingly, people with traditional university education are not sheltered from joblessness in both societies better than those holding post-secondary non-tertiary education (in Israel) or some vocationally oriented tertiary education (in Germany).

By including the interaction term for the tertiary education among immigrants in the estimated models we test whether immigrants with higher education are rewarded differently than the native-born and whether the rates of return vary between the two countries. The results show that better-educated immigrants face stronger employment penal-

Table 3 *Results of the regression predicting odds of unemployment and of professional, technical or managerial (PTM) employment for native-born and FSU immigrants, ages twenty to 59, in Germany and Israel*

	Unemployment		**PTM Employment**	
	Germany	**Israel**	**Germany**	**Israel**
	1	2	3	4
Native-born	1.000	1.000	1.000	1.000
FSU immigrants[(a)]	35.494**	2.536**	0.404*	0.071**
YSM[(a)]	0.674**	0.882**	1.008	1.187**
Demographics				
Men	0.744**	0.743**	0.712**	1.065**
Age	0.877**	0.890**	1.057**	1.094**
Age squared	1.002**	1.001**	1.000**	0.999**
Married (rest=0)	0.584**	0.624**	0.922**	1.352**
Education				
Casmin 1ab, 2b	3.094**	1.761**	0.102**	0.264**
Casmin 1c, 2a	1.785**	1.345**	0.300**	0.602**
Casmin 2c (ref.)	1.000	1.000	1.000	1.000
Casmin 3a	0.866**	0.809**	4.595**	6.245**
Casmin 3b	0.712**	0.421**	8.297**	17.902**
Interaction				
FSU * tertiary education[b]	2.665**	2.425**	0.513*	0.928[(a)]
Observation year (2000=1)	0.908**	1.315**	1.013	1.008
Intercept	0.787*	1.108	0.457**	0.026**
Log likelihood	-117,281	-14,939	-194,782	-23,873
Chi Square	11,446	1,705	85,730	20,581
Pseudo R^2	0.047	0.054	0.180	0.301

Source: Israel: pooled Labor Force Surveys (1996, 2000); Germany: pooled Micro-censuses (1996, 2000)

*p < .05; ** p < .01

[a] The differences between the coefficients for Germany and Israel are statistically significant (p < .01); only differences between coefficients related to immigrants (the main effect for FSU immigrants, effect of the YSM and interaction effect of education) have been checked

[b] Tertiary education pertains here to Casmin 3a and Casmin 3b for Germany and Casmin 3b for Israel (see appendix A)

ties in both countries compared to the native-born. However, there is no indication that immigrants in Germany suffer a significantly larger employment penalty than their counterparts who settled in Israel.

Let us turn now to columns 3 and 4 of table 2 where the odds of holding a PTM occupation are presented. It is evident that in both countries the odds of PTM employment are lower for FSU immigrants than for natives. As expected, the initial occupational penalty is greater in Israel (the odds of 0.07) than in Germany (the odds of 0.40), and the difference between the coefficients for FSU immigrants in the two

countries is statistically significant. With the passage of time, however, immigrants in Israel seem to be able to improve their chances of PTM employment at a faster rate than in Germany. In fact, the effect of YSM in Germany is not statistically significant at all.

Education clearly determines the entry to PTM occupations. Unsurprisingly, people with compulsory schooling only have the lowest odds on entering professional, technical and managerial employment. The odds of PTM employment increase with education, being highest for people with university education. It is to be noted, however, that immigrants with tertiary education are clearly penalised compared to the native-born in both countries. Their disadvantage is significantly larger in Germany than in Israel, which confirms our hypothesis.

6 Discussion and conclusions

In this paper we explored the labour market situation of FSU Jewish immigrants in the two countries that hosted substantial proportions of these émigrés in the 1990s. The main goal of this exercise was to show how differences in the institutional characteristics of the receiving societies, and above all immigration policies and labour market structure and regulations, translate into varying patterns of immigrant self-selection (particularly regarding education) and measurable differences in their labour market attainment. Our theoretical considerations with regard to a more attractive benefit package provided to immigrants in Germany led us to believe that this country should have received less skilled, less motivated immigrants attracted to Germany's long-lasting benefits, while Israel would have attracted the more able and motivated immigrants. Judging by the educational level with which immigrants arrived in both countries, no substantial differences in immigrant selectivity could be identified for the earlier immigrant cohorts. Evidence of the increasing educational selectivity for the later arrivals was found, with more educated migrants choosing Israel rather then Germany.

Immigrant self-selection is only a partial driving force behind the observed cross-national differences in unemployment propensities and the occupational attainment of immigrants. Some of these variations should relate to the institutional differences between the German and Israeli labour markets as well as to the various policies of the two countries towards these immigrants, including the level of the material assistance provided to them. Thus, our finding that immigrants coming to Germany suffer from extremely high unemployment rates when they first arrive, but are more likely to attain high status PTM occupations than their counterparts in Israel could be explained by Germany's less receptive labour market, together with the more generous material

assistance offered to unemployed FSU immigrants. As a result, FSU Jews in Germany are able to wait for agreeable jobs, while their counterparts in Israel are forced to take whatever job is offered to them, for state benefits are no longer available one year after migration.

An alternative explanation for immigrants' higher initial unemployment rates in Germany than in Israel could be that FSU immigrants are sent to economically depressed regions (e.g. federal states in Eastern Germany), and therefore suffer disproportionately from the higher unemployment rates in these regions. We found, however, no empirical support to this explanation. Furthermore, it should not be forgotten that in relative terms the stream of FSU immigrants into Israel in the 1990s was substantially larger than the flow of all immigrants into Germany during the same time. Thus the lower unemployment rates of Jewish immigrants upon arrival in Israel might be at least partially related to the opportunities offered in ethnic economies, more pronounced in Israel (Mesch 2002) than in Germany.[5]

Despite economic progress achieved by immigrants in both countries six years after migration neither group is able to close the gap to the demographically comparable native-born. Moreover, the rate of progress in the two countries differs considerably, depending on the outcome of interest. FSU immigrants in Germany experience faster progress in getting out of unemployment than their counterparts in Israel, but are virtually non-mobile when it comes to their occupational promotion compared to the natives, *ceteris paribus*. In Israel, on the other hand, a more modest rate of progress is observed with respect to both outcomes. Differences in the rate of immigrant occupational progress in the two countries – in Germany occupational mobility is more limited than in Israel – are also consistent with previous research on mobility rates in the two countries (DiPrete & McManus 1996; Yaish 2004).

Finally our results show that at employment entry, tertiary educated FSU immigrants are similarly disadvantaged in both countries compared to the native-born with university or college diplomas. However, tertiary educated immigrants face greater difficulties in landing adequate (that is, PTM) employment in Germany than in Israel, compared to the tertiary educated native-born. Thus we were able to confirm that the Israeli policy of recognising educational qualification acquired abroad is more effective for highly educated FSU immigrants' labour market success than the more ambivalent German stand in this regard.

Appendix A: Description of variables included in multivariate analyses

Dependent variables

Variable	Description
Unemployment	Identifies one as (1) unemployed vs. (2) employed (for those in the labour force)
Professional, technical or managerial (PTM) employment	Identifies one as being in (1) PTM job vs. (2) other jobs (for those in employment)

Independent variables

Variable	Description
FSU immigrants (dummy)	*Native-born (=0) vs. FSU immigrants (=1)*
Migration-related variables (for FSU immigrants only)	Year since migration (YSM), Native-born have value 0
Gender	Dummy-coded variable (1) men vs. women (reference)
Age	Raw value
Age squared	Square of age
Marital status	Dummy-coded variable (1) married vs. rest (reference)
Education, measured in Casmin	Dummy-coded variables: Casmin 1ab, 2b – Secondary general, no matriculation certificate, academic tack)
(for Germany see Brauns & Steinmann 1997, and for Israel see Kraus, Shavit & Yaish 1988)	**Casmin 1c, 2a – Secondary vocational general, no matriculation certificate, vocational tack)** Casmin 2c (reference) – Upper secondary with matriculation certificate (*Abitur, Begrut*) Casmin 3a – Some tertiary – for Israel Casmin 3a pertains to post-secondary non-tertiary education, while for Germany – to a low grade tertiary education (e.g. *Fachhochschule*) Casmin 3b – Full tertiary (university)
Observation year	1996 (=0) 2000 (=1)
FSU immigrants x tertiary education	Interaction variable for tertiary educated FSU immigrants (those with Casmin 3ab in Germany and Casmin 3b in Israel) (=1), all other immigrants and all native-born receive value 0

Notes

1 This research was partly supported by a grant from the German-Israeli Foundation for Scientific Research and Development (GIF).
2 The same practice is implemented with regard to ethnic Germans in Germany.
3 The exact duration of the waiting period depends on the federal state.
4 Particularly strong are links between university education and chances for entering service class and of vocational education at the secondary level for entering skilled blue-collar occupations in Germany (Müller & Shavit 1998).
5 The available data unfortunately do not allow this hypothesis to be tested.

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States as Clubs?

THE POLITICAL ECONOMY OF STATE MEMBERSHIP

Holger Kolb

1 Introduction

Citizenship is generally regarded as a very important topic within the various disciplines in the social sciences. The only exception appears to be economists, many of whom openly regard their discipline as the 'queen of the social sciences' (Van Suntum 1999; see for a critique Frey 1990: 15-19). Although economics has transgressed the boundaries of its assumed core competences, has tried to analyse phenomena which did not seem to be of a major interest for economists[1] and has thus been accused of being imperialist (Pies 1998), no elaborate 'economics of citizenship' has yet been developed (see also Kirchgässner 1995). Very recently, however, Straubhaar (1992, 2002, 2003) has taken up this question and has analysed states and clubs in a comparative perspective (see also Schäfer 1998). This perspective will be adopted and further investigated. I start in section two by presenting the implications of the economic club theory and by linking them with states and state membership. Further to this, the most important differences between clubs and states will be discussed. As a main discrepancy the membership differences will be considered, as will the consequences which would occur if states act exclusively under the terms of the recommendations and assumptions of club theory. Proceeding from the assumption that two different categories of membership exist, one of birth membership and one of acquired membership (immigration), section three identifies family policy and immigration policy as relevant fields of action for state membership policies. While this is much more obvious for membership by acquisition (immigration) than for birth membership, which is analysed in more detail, it will be argued that the implications of club theory remain valid for birth membership, however in a different manner. Section four exemplifies these considerations by stressing concrete policies. Section five concludes and complements with some remarks concerning the status of club theory and their implications for state membership policies.

2 Club theory as a starting point for discussing state membership

The connection of states and clubs actually becomes apparent in everyday semantics. In the same way that clubs compete against each other the same applies to states, examples for this being foreign direct investments and highly skilled migrants. Competition therefore is one common feature of states and clubs. The starting point for an analysis between states and clubs is thus the competition for club members. The theoretical implications of club theory will be referred back to states. A first step has been undertaken by Straubhaar (1992, 2002, 2003) who indicates the parallels of states and clubs and the tasks states and clubs have to fulfil respectively. For a basic understanding of the nature of a club, however, it is useful to go back further to Buchanan's (1965: 13) seminal work on clubs. According to Buchanan, clubs must aim for an optimal exclusion as well as optimal inclusion. As a rule of thumb this means that clubs should accept a new member as long as their marginal costs equal their marginal gain, which equals the contribution to the financing or maintenance of the stock of club collective goods.[2] A club chooses for itself the club size that maximises the utility of a representative club member. In technical terms efficient club size is reached where the collective good becomes fully rivalrous at the margin. Members whose contribution, which amounts to the average cost of the collective good, exceeds the marginal opportunity costs to the group, are admitted. Efficient clubs thus feature 'equality of the marginal and the average cost' (Starrett 1988: 52).

As to granting membership, rivalry is the basic criterion. In the case of non-rivalry, that means in the case of a forecasted net contribution to the financing and maintenance of club goods, membership will be granted to every applicant because every net contributor contributes to a reduction of the per capita burden. In the case of crowding out or congestion costs rivalry of use emerges. Access will be limited. A similar differentiation in this context is used by Olson (1965: 34-43) who differentiates between inclusive and exclusive clubs. Inclusive clubs provide pure collective goods and do not require any limits of membership. Exclusive clubs are characterised by crowding out and congestion effects at a certain point and therefore require rules for membership restrictions. Olson's differentiation is a rough guide for the discussion of states as clubs. According to Olson states can be understood as exclusive clubs. It is neither rational for them to do without any membership restrictions nor is it rational to deny all new applicants entry (see also Straubhaar 2003: 81).

Despite the previously mentioned features between states and clubs, the two differ in one important aspect; clubs shape and decide on

membership through application and a subsequent decision by the board of the club or the general meeting (Bauböck 1994: 161). This, of course, is much more complicated for states, as the majority of the state members are not members on account of a successful application, but on account of birth within the territory of the state or on account of descent from a member. Therefore, in order to discuss state membership it is necessary to distinguish between two kinds of membership: birth membership and membership by application/acquisition. In empirical terms the former is much more important. Ninety-eight per cent of the world's population holds the citizenship of the country in which they live (Straubhaar 2002: 18).[3] This category is a consequence of the political distribution of the world population into nation states. Citizenship is permanent, immediate and exclusive (Bommes 1999; Brubaker 1992; Grawert 1984). In the tradition of Wicksell's (1896) approach of a voluntary exchange, Sandler and Tschirhart (1980: 1482) define clubs as 'voluntary group[s] deriving mutual benefit [...] from sharing production costs, the members' characteristics, or a good characterized by excludable benefits' (see also Straubhaar 2003: 77). States, however, are not voluntary groups, because a large part of the population has not chosen voluntarily to become a member (Bauböck 1994: 30; Joppke 2003: 435).[4] States thus differ from clubs in one basic aspect: Everyone is a member somewhere.

Furthermore, it can easily be seen that the action patterns of states and clubs diverge in their respective membership policies. What is possible and applicable in the context of the category 'membership by acquisition' is impossible and impracticable for birth membership. States cannot maintain the club rationale for those members who are members by birth. What would happen if states acted like clubs or, in other words, would not differentiate between 'external exclusion' of aliens and 'internal exclusion' of people who are already there (Joppke 2005: 46)? What would happen if they made no distinction between the two groups of members? It is interesting to see that Brubaker (1992: 25) also raised this question in his book on citizenship and nationhood in France and Germany. He asks: 'Why is territorial closure directed against non-citizens alone, although the territorial state's interest in controlling entry and exit is a general one?' although 'the territorial state might seek to externalize the material and ideal costs associated with unruly, unemployed, unfit, unassimilated, or otherwise undesired residence [...] by excluding or expelling them'. Brubaker answers this question by referring to international relations and emphasises that 'every state is embedded in a system of coordinate territorial states, each with the same vital interest in controlling migration.' The reason why states cannot behave like clubs and therefore cannot configure their membership rules according to the equation 'marginal profits

must be bigger than the marginal costs' is the consequence of a zero-sum game. This is because the costs successfully externalised by one must be borne by another.[5] Thus, Brubaker mainly argues in terms of international relations. In his interpretation a non-differentiation between citizens and non-citizens would result in damages in international relations.

Brubaker's interpretation is highly relevant, of course, but another answer can be even more convincing. It can be argued that it is necessary to differentiate between citizens and non-citizens when discussing the conditions under which states can act like clubs. Indeed, the consequence of ignoring the structural difference between birth membership and membership gained by acquisition would be the destruction of exactly what states aim to provide. By acting and behaving like pure clubs – in this context that means by comparing marginal costs and marginal utility – states destroy what they should provide: collective goods. This can easily be understood, because one decisive collective good states provide is the stability of the law and the predictability of legal decisions. This creates a club-state paradox: If states behave according to the functional imperatives of clubs they destroy what they aim to provide. Modern democracies take this problem into account and follow the recommendations of club theory only to a certain extent by differentiating between citizens and non-citizens. The necessary differentiation between these two kinds of membership therefore entails some important implications for the recommendations of club theory as to organising optimal exclusion and inclusion.

3 Immigration policy and family policy as elements of an integrated state membership policy

States are composed of three main structural elements: territory, sovereignty and population. Regarding the third element, population, states dispose of three different modes to influence or to *mould* their populations, two of which concern future members, and one current members.[6] The first option aims at influencing the current resident population through targeted education, labour market and social policies. This is a major theme in current debates about welfare state reforms in Europe. These reforms target in particular the welfare-dependent sections of the population, through requiring increased personal contributions and through reducing the welfare benefits in order to set incentives for taking up (even low-paid) employment.[7] These policies address individuals who are already members. More relevant for this context are measures addressing future members – either individuals who are already born but live in another state where they are members, or as yet

unborn members (or their parents, as proxies). In the case of shaping the population by influencing the conditions for new members, states have two basic options: on the one hand the attraction of (already born) members of other states or, on the other hand, by setting the parameters for the production of new members on the state territory. The relevant policy fields for these options are immigration policy and family policy. Both will be analysed in more detail below in the context of the theoretical framework of the club theory indicated above.

3.1 Membership by acquisition: immigration policy

At this point migration and migration policies are instructive examples to illustrate the parallels between states and clubs. As it is neither rational for clubs to accept nor to refuse every applicant, the same basic rule of thumb is valid for states and their migration policies. They face the same problem of finding the right way to organise optimal exclusion and inclusion. Empirical evidence for this consideration can be found in many recent debates about migration that are not centred on the basic question of whether immigration should be allowed or not. The core of the current immigration discussion revolves around what kind of migration should be allowed, who should become a new member and how the admission process should be organised. At present there is no industrialised country that still pursues a policy of open borders. The era of minimum state intervention into immigration processes – the 'liberal moment in the history of international migration' (Zolberg 1992: 322) – ended in the nineteenth century (Moch 1992: 107). States neither accept nor reject immigrants as a rule. This indicates that the state design of membership policies at least resembles the implications of club theory to organise optimal exclusion as well as optimal inclusion. This, however, should not be taken for granted. Particularly immigration advocates sometimes wonder why immigration is such a hotly debated issue and argue that, in the long run, labour mobility benefits everyone (Simon 1989; see for this critique Freeman 1995; Hillman 1994). From an economic perspective, migration is understood as a function of mobility costs and welfare differentials (Pies 1995: 151) and thus a phenomenon of arbitrage that contributes to the correction of market imperfections. From this view, migration should be generally approved of by states because it contributes to increased economic efficiency (Straubhaar 2002: 52-53). This general statement loses its validity when welfare state arrangements are introduced. As the modern nation-state primarily is a welfare state (Halfmann & Bommes 1998: 87), unregulated immigration may undermine the welfare state's capacity to provide services to its populations. In particular, tax-financed social aid and other benefits, where they are paid indepen-

dently of previous payments, may operate as a magnet for certain immigrant groups (Borjas 1999) who thus contribute less to the state than they receive. A state will therefore be interested in restricting immigration for those groups (Straubhaar 2002: 84) or, in other words, welfare states must maintain an external 'threshold of inequality' (Stichweh 1998: 49-61).[8] A second, less economic reason why all industrialised nation-states have abandoned a laissez-faire immigration policy is related to the reduced value attributed to the population size of a state. The move from the prohibition of emigration to the restriction of immigration mirrors the rejection of a mercantilist population policy which was primarily aimed at increasing the population size. Indeed, a growing population is no longer automatically associated with an increase in power or competitiveness (Stichweh 1991). Most states allow emigration (exit) because population quantity is neither a central determinant of military power (which in any case may be less important than in the past) nor is it a precondition for economic competitiveness (see also Tietzel 1995: 128). As a consequence, the main rationale for increasing the population size has become less important. This indicates that the option of unrestricted migration as a means of inducing or accelerating population growth can be excluded as a realistic state option. As a general rule, states desire members who contribute more to the maintenance of the bundle of collective goods than they receive from the state in the form of welfare benefits or usage of collective goods.

If unrestricted immigration is not a realistic option, then one might expect states to aim for simple exclusion by totally prohibiting immigration. This approach, however, has not been followed in state policies. Even leaving aside states' commitments to certain channels of humanitarian migration, attempts to completely prohibit immigration (pure exclusion) would result in tremendous costs and are therefore not pursued. This is the 'liberal paradox' (Hollifield 1992) that confronts many states. Despite the existence of domestic political forces, such as the electorate, that prefer rather restrictive immigration policies[9] and that push states towards increasing closure, international economic forces have the opposite effect and push states towards greater openness.[10] North Korea may well be the only nation-state that refuses any form of integration into the globalised economy. Open societies are indeed able to manage economic structural changes much more smoothly by allowing factor mobility and by enhancing their potential for growth by attracting immigrants who complement indigenous production factors. Translated into the language of club theory, this means that globalisation and the intensification of market relations (Hollifield 1992: 216) have rendered the theoretical option of pure exclusion unaffordable for states. Neither a policy of open borders (pure inclusion)

nor the total prohibition of migration (pure exclusion) can be serious policy options given the current and expected future international economic context. In light of this, the central thrust of current debates on immigration in most OECD countries is not the question as to whether or not there should be any immigration. Instead, debates focus on technical questions such as the kind of migration that should be allowed, the characteristics of potential members that are considered desirable, or the management of the admissions process. In this rather abstract sense, states and clubs do indeed appear to face the same problem, that of finding the right way to organise optimal exclusion and inclusion for their membership policies. Both need members and consequently do not accept or reject every applicant as a matter of principle. The attempt to reach equilibrium between optimal exclusion and inclusion is the function of national immigration policies that, correspondingly, can be understood as technical decisions on the right mode of determining rivalry. By implementing specific immigration policies states aim, at least partially, to solve the same problem as clubs do. They develop procedures of rivalry assessment to find a mechanism for deciding whether an individual applicant should be granted membership or not. Nation-states thus continue to exclude non-nationals (not in general, but empirically a significant number of people). This mode of exclusion, however, fundamentally differs from the exclusion of the classic nation-state where 'immigration [...] policies were thus in the service of reproducing internally homogenous [...] collectivities, which was achieved by selecting newcomers on the basis of their ethnicity, race, or national origins' (Joppke 2005: 48). In fact, exclusion practices have been renouncing ascriptive group characteristics as relevant for selecting immigrants and replacing them with individual criteria of skills (Joppke 2005: 49).

The implementation of the theoretical requirement of optimal exclusion and inclusion into the political practice is to be organised by national immigration policies. They develop procedures of rivalry assessment to find a mechanism for deciding whether an individual applicant should be granted membership or not. Immigration policy is 'notionally tied to the national interest' (Joppke 1999: 17). As a general trend over the last decades, access for medium- or low-skilled workers has been restricted and the level of competition for highly skilled migrants has been increasing in most OECD countries.

3.2 Birth membership: family policy

One important restriction of club theory for discussing state membership is the existence of a second form of membership, that of birth membership (Tietzel 1995: 119). This category lacks one basic require-

ment for a club policy, exclusionability. People who gain membership at birth cannot be excluded, even if they induce more costs than benefits. This goes against one of the cornerstones of a club policy (Straubhaar 2003: 82). Selection procedures applicable for members by acquisition, that is in the case of immigration, are impossible in the case of birth members. The basic assumption of club theory, the organisation of optimal exclusion as well as inclusion, is by no means irrelevant for birth membership, but will be considered in a different way. For members by acquisition it is rather a technical question of a forecast of future rivalry, which is operationalised by the question of whether the potential new member will render a positive contribution margin to the financing and maintenance of club collective goods. The task of optimal exclusion and inclusion, however, is also relevant in the case of birth members, but in a completely different manner. As the permanent nature of citizenship guarantees state membership to birth members, the technical form of rivalry assessment described above is not applicable. In order to clarify the usability of the question of optimal exclusion and inclusion for birth membership and the implications of club theory, the category of birth membership in the following section will be analysed in more detail. In doing so, qualitative and quantitative aspects of birth membership must be analysed separately as a first step. Both aspects will be brought together again at a later stage.[11]

3.2.1 Quantity of birth members: fertility and birth membership in economics

Since Malthus' famous study on the interrelation between fertility and income, household decisions and the determinants of fertility have remained outside the main concerns of economics, or at least were considered as 'a mild form of eccentricity' (Cigno 1991: 15). Becker and the 'new home economists' returned fertility and family issues to the main agenda within economics.[12] Becker's interest in fertility issues was triggered by the negative income elasticity of demand for children. In microeconomic theory this negative income elasticity of demand indicates inferior goods, an explanation that cannot provide a satisfactory explanation for the negative relationship between income and childbirth (Pies 1998: 7). Without abandoning the central assumption of the microeconomic price theory, Becker develops an explanatory approach that gives a satisfactory answer to the negative correlation between income and number of children. According to this model, children are regarded as basic commodities[13] that, on the one hand, induce marginal utility for the parents, but on the other hand absorb resources. These basic commodities ('children') 'cannot be purchased on the open market but must be produced at home' (Becker 1960: 216). At this point the assumptions of the microeconomic price theory are modified in

such a way that households are not only regarded as suppliers of production factors and buyers of market goods, but also as producers of basic commodities. Families accordingly are perceived as cost-minimising and utility-maximising production units. In this respect a household can be regarded as a small factory (Becker 1965: 496). Thus in a formal sense a household production function can be analysed (see Pies 1998 for more details). Households 'combine time and market goods' (Becker 1965: 494) to produce children as basic commodities. Concerning the production of basic commodities, households face two constraints: a monetary one – market goods as input must be purchased – and a technological one that specifies how many market goods and how much time is required for the production. Household production time, which in general can be used for leisure, market activity or household activity (see Gronau 1973), is another relevant factor. This particular production is very time-consuming. By merging the time and money constraint for the production of children the shadow price of childbearing can be determined. The shadow price consequently indicates the factor costs that are necessary for the production of one unit of a basic commodity. The shadow price contains two elements, the input coefficient of market goods and the input coefficient of time. Assuming that individuals can generally use time either for work or leisure, the wage rate reflects the opportunity costs of time. As rising wages increase the opportunity cost for uses of time other than work, labour supply ceteris paribus increases and the demand for children decreases. The bringing up of children is in this way substituted by work. This model allows for the perpetuation of the positive income effect concerning the demand for children and for the interpretation of children as superior basic commodities. Particularly for highly qualified people, for whom time has a high value, the positive income effect is overcompensated by the substitution effect (Rürup & Gruescu 2003: 21-22).

The main implication of this model is a negative correlation between income and fertility. Higher wages increase the shadow costs of this basic commodity or of all basic commodities which are produced with a relatively high time input. This is particularly true for children. Empirical evidence for this interrelation is easily available. Pfeiffer and Braun (2005) compare the current total costs of children in a blue-collar worker household and in an academic household in Germany. Whereas the total cost of raising a child is € 225,000 in the case of the blue-collar worker household, this figure amounts to about € 405,000 in the case of academic households. The biggest part of this difference arises from the loss in income and the depreciation of human capital in the academic household if one partner decides to give up his or her job for parenting. Beblo and Wolf (2002: 83-94) calculate that the human ca-

pital accumulated by occupational training is reduced by a third in the case of a one-year job break. This means in general terms that higher wages correspond to higher shadow prices for children as basic commodities. Higher wage earners will therefore opt for basic commodities that can be produced in a less time intensive manner.[14] This is the theoretical background for observations in many countries that women with an academic background (being those who on an average earn more than women without an academic background) do not have children and that fertility amongst non-working women is much higher (see also Rürup & Gruescu 2003). A first intermediate result regarding the quantity of birth membership shows a negative correlation between income and education on the one hand and fertility on the other.

3.2.2 'The quality of children': the interrelation of social background and educational achievements

As a second step the quality dimension of birth membership will now be integrated separately into the analysis and will then be connected to the quantity dimension. Many empirical studies from sociology as well as from economics point out the fact that the 'quality of children' shows a high positive correlation with the socio-economic standing of the parents (Wößmann 2002; OECD 2001; Kristen 2005). The term 'quality of children' is not a politically correct one and a major source for misunderstandings and thus needs to be clarified. The term has been mainly coined by Becker, the founder and lead protagonist of the 'new home economics' (Ott 1998: 66). In everyday speech, 'quality' specifies the attributes of a certain good or service or the output of production. In Becker's work, however, the word refers not to the output but to the input (Pies 1998: 10). Hence, following Becker (1960: 211) the 'quality' of children is related to the amount of (monetary, social and cultural) resources parents invest in the children in order to equip them with certain characteristics. Becker and Tomes (1976) emphasise that a 'higher quality' has nothing to do with moral supremacy. The reason why some parents spend and invest more money in their children is just because this marginal expenditure for investment purposes induces additional utility for the parents. The previously described definition of 'quality' will thus be used in the remainder of the text.

It is in the interest of states or clubs that especially those birth members (in other words: those who are born) who are considered 'high quality', that is, those who are supposed to be equipped with a certain amount of resources like education and training, enter into the club. Berthold and Fehn (2002: 27) even argue that growth and economic competitiveness depend much more on the quality of the children and that any population-oriented family policy that measures its success on increasing birth figures is doomed to failure. Any purely quantitatively

oriented policies that resemble planned economic thinking such as that previously carried out in Eastern Europe should be avoided. Children of good quality are those children who can be assumed to have been equipped (mainly by their parents) with a certain amount of resources such as education and training. From the state's perspective, such an early investment in human capital is important because it predetermines the likelihood of rivalry or the likelihood of a net contribution to the acquisition and maintenance of club goods. Accordingly, Rürup and Gruescu (2003) in this case speak about positive external effects of children (see also Berthold & Fehn 2002: 35; Lindbeck & Nyberg 2001).

Proceeding from the assumption that also with respect to birth membership states cannot be indifferent about the composition of their population and should aim at a high-quality population, the question must be focused on the circumstances in which a high quality of birth members is probable. A weighty body of literature from sociology as well as from economics refers to the interrelation of cultural capital, strata-specific educational preferences and distances and educational achievements. The sophisticated overview of this literature by Kristen (1999) indicates that despite different theoretical starting points most studies assess patterns of strata-specific 'quality differences' concerning birth members. Educational success of the parents is closely linked to educational success of their children. Correspondingly, it is assumed that children of already rivalling parents will have a higher probability of rivalling than children of non-rivalling parents. This should not be mistaken for the assumption that educational success is in some way inherited. The main aim of state educational policy is indeed to break this linkage through the establishment of a net of educational infrastructures.[15] The PISA study recently showed that some states have had different degrees of success in this regard.[16] Despite extensive state efforts to provide a sufficient educational infrastructure in order to break the indicated interrelationship between income and educational chances, the social background has seemingly remained an important influence on investment in education and educational success. The substitution of cultural capital, which is provided mainly by the parents through organisational capital (e.g. educational infrastructure provided by states) seems to be possible only to a certain extent. In this context it is worth noting that state attempts to compensate for a certain lack of parental cultural capital by the provision of educational infrastructure do not primarily aim at the maintenance of equal opportunities, but are rather conducted in the self-interest of each state. Even in the case of a quantitatively sufficient reproduction of those groups with a high intra-family investment propensity the production of non-rivalling birth members would not sufficiently meet the demand of a knowl-

edge-based society. A second intermediate result concerning the quality dimension of birth membership is a tendency of a strata-specific probability of rivalry. This tendency is not irreversible, but, empirically, remains the case in many countries.

The quality aspect, which was presented above, now can be related back to the considerations concerning the quantity of birth members. It was argued that the quality strongly depends on the financial, social and cultural capital of the investor, in our case the parents. This means that when we combine the two statements of the last two sections a fairly problematic situation arises from the perspective of the club or the state. Those parents who are able and likely to invest in the quality of the children are more and more unlikely to have children (see also Berthold & Fehn 2002: 27). They opt against the basic commodity 'child', as this is a particularly time-consuming commodity, opting instead for one that is relatively less time-intensive in production. The aspects outlined above of quantity and quality of birth members show a relevant interrelation for state population policies. This will be further examined in the next section.

4 Modes of family policies as club policy

State membership can be achieved by birth or application/acquisition (immigration). With respect to the first category, parental educational underinvestment in the human capital of their children and a resulting loss in quality of birth members can be a problem, as in this case birth members have a higher propensity of rivalry, which is defined as a negative net contribution to the financing and maintenance of club collective goods in the future. This particularly applies to states with relatively high wages, an extended welfare state, state funded and provided collective goods and only a small pool of natural resources.

It has already been indicated that the necessary precondition for a club policy, excludability, does not exist for birth members. This does not mean, however, that states totally refrain from a club policy for birth members. It is a common empirical trend that states react to the existing interrelationship between the quality of the birth members (children) and the fertility of certain social classes. In a certain sense such an approach can be understood as a club policy that aims at influencing the production of birth members and aims at providing optimal exclusion and inclusion. Not only immigrants, but also newly born children may compete for scarce (club) resources with indigenous residents (Straubhaar 2003: 79). In this way club policy avails the results of household economics described above, because states not only decide on membership by immigration, they also try to affect the category

of birth membership. The related policy field is family policy.[17] Therefore many reforms in family policies have taken place in various states in recent years, aimed at tackling the problem of birth membership through attempts to influence individual decisions of child bearing (the production of birth members). At the centre of these reforms is the concept of opportunity costs, which – dependent on the target group and the specific policy aim – are either increased (optimal exclusion and avoidance of negative external effects) or decreased (optimal inclusion and encouragement of positive external effects). Accordingly, two different types of family policy – an encouraging and a sanctioning version – can be determined.

4.1 Encouraging version

It is well known that the German fertility rate, which is presently situated at about 1.4 live births per woman, is significantly below the reproduction rate.[18] In the following decades Germany will suffer from an acute decline in the number of birth members, which in the long run can cause major economic problems (Felderer & Sauga 1988). Shrinking birth rates have already been observed since the beginning of the twentieth century. This indicates the changeover from a preindustrial society with high birth rates and high mortality into a modern society with low birth rates and low mortality (Dickmann & Seyda 2004: 36). As it is unlikely that increasing immigration will fully account for this demographic deficit (Rürup & Gruescu 2003: 48), a main aim of family policy in Germany must be to increase the numbers of children born in Germany (Rürup & Gruescu 2003; Bertram, Rösler & Ehlert 2005). This means the promotion of birth membership.

All in all, the family policy in the past decades in Germany must be interpreted as having been rather ineffective. Neither the goal of a fertility rate that equals the reproduction rate nor the aim of high female labour market participation has been achieved (Ristau 2005: 8). In particular, the inability to increase the fertility rate seems to be in need of explanation given the huge financial engagement of the state which, according to Allmendinger and Dressel (2005: 25), amounts to € 180 billion,[19] most of it spent as direct transfers. The child allowance in Germany is the second highest in the EU. A second German particularity is the relative lack of importance attached to the provision for child care (Rürup & Gruescu 2003: 35). This is even more surprising and needs to be revised in order to increase the fertility rate, because it can be assumed that direct monetary transfers only have limited positive effects on fertility. For Sweden, Walker (1995) presents empirical evidence that service-based measures do indeed have a higher impact on fertility than direct financial transfers (see also Rosen 1997).

When discussing the German case the qualitative aspect in addition to the quantitative aspect must be taken into consideration. Analysing the most recent reforms in family policy, it becomes clear that these reforms are not directed towards a general increase of birth members, something which was criticised by Berthold and Fehn (2002: 27) as 'ton ideology'. Incentives to promote fertility are primarily given to families with a high intergenerational propensity to invest into their children. The background to this policy is the stimulation of 'the production of children' by club members who will with a high probability induce positive external effects for the club in the future. This trend can be seen empirically in the most recent family policy measures of the German government and the family policy programmes of German political parties.

One focal point in the last election campaign in Germany was the expansion of all-day schools, institutions that especially in West Germany are barely existent. Despite a growing public deficit the German government has invested four billion euros in this.[20] Additionally a law has been passed aimed at expanding day care facilities for children under three years old if both parents are employed. In both areas Germany (especially West Germany) is regarded as being underdeveloped (Spieß & Wrohlich 2005: 31). Both measures can be explained analytically as considerations derived from the concept of opportunity costs. By providing a better infrastructure for day care for children, a signal is given to employed and qualified women[21] that it is possible to stay in their job despite maternity. The number of childless employed and highly skilled women,[22] people regarded as having a high propensity to invest in their children, can thereby be reduced.[23] The high opportunity costs of childbearing for highly skilled women that emerge from the loss of income, reduced pension claims in pay-as-you-go systems and increasing depreciation rates on human capital can thus be reduced, because employment does not need to be given up because of maternity. The same rationale forms the basis of a law that was implemented in 2007. The new 'parent money'[24] correlates positively with the income and provides that the parent who stops working the year following the birth of his or her child receive for this period 67 per cent of his/her salary. The positive correlation of parent money with income makes it clear that the parent money is aimed at compensating for opportunity costs.[25] Other European countries have already implemented such reforms. Fehn (1998: 92) argues that the relatively small number of institutions that provide the opportunity for women to remain employed after giving birth in Germany gives for an explanation of the lower fertility rates among skilled working women compared to countries such as France and Sweden. All these efforts have been taken into consideration to tackle the problem of opportunity costs of child-

bearing. Children are considered as basic commodities that – compared to other basic commodities – require a relatively longer period of production. As time is of more value for working women than for those not employed, the former opt against children. By allowing a professional life to be maintained despite the presence of children,[26] the substitution effect described above is eased (Rürup & Gruescu 2003: 22). Children as time-consuming basic commodities become relatively cheaper for gainfully employed women. These have a high time-value and also have the financial, cultural and social resources to invest in their children. At this point a particular development of fertility patterns is worth mentioning. Meyer (2003) notes that whilst childlessness is indeed especially notable in the case of highly skilled women, those who decide for children have in most cases two or more children (see also Rürup & Gruescu 2003: 11-12). Kaufmann (2000) even refers to a certain polarisation between adults who realise their desire for a child and those who opt against having children. Accordingly, childlessness of highly skilled women seems to be the actual demographic problem that can be tackled by the setting of incentives to influence people to have at least one child. It can generally be assumed that once one child is born, in most cases a second will follow, because economies of scale also apply in the context of childbearing.[27]

It is interesting to see that differences between the political parties play only a minor role as far as the measures against the low fertility rates of highly skilled women are concerned (Wingen 2005). Although the parent money was developed by the social democrats during the red-green coalition (Social Democrats and Green Party), the new government and the new conservative minister of family have also adhered to this policy.[28] In the last few years German family policy has been characterised by a shift from a family redistribution policy, which was almost exclusively based on social policy considerations, to a club policy based on economic considerations. The principle of the opportunity costs serves as a basis for measures which set incentives for groups with a high propensity to invest (quality dimension) in their children to have children (quantity dimension). The new importance of family policy can be traced back to the economic foundations of this policy field (for the view of a member of the family ministry see Ristau 2005: 19-20).[29] Instead of striving for distributional justice by enabling mothers to quit work and to implement classic social policy, family policy now is interpreted much more in terms of economic policy.

4.2 Sanctioning version

The setting of incentives is also possible in a negative and sanctioning way. The American club policy for birth members is an instructive ex-

ample for this. In the American case this is empirically reflected in the introduction of negative incentives for groups with a low propensity to invest. A study of Bernstam and Swan (1986) indicated that social assistance payments increased the share of out-of-wedlock births to women from lower social classes. Children were therefore born to a certain degree as a means to generate income.[30] In connection with the reform of the American welfare system, conducted under the Clinton administration and institutionalised by the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), the federal states were allowed to stop further additional payments to parents who bore another child whilst they were receiving social assistance (Becker & Becker 1998: 125; Wiseman 1996).[31] Thereby children became relatively more expensive for this group. This price effect is thus assumed to lead to a decrease in demand (see Powers 1994; Clarke & Strauss 1998 for empirical evidence from the US, for a similar argumentation for Germany see Ristau 2005: 19).

This measure is called a 'family cap' and is applicable in twenty federal states in the United States.[32] The first state to introduce such a measure was New Jersey, which introduced a family cap waiver in 1992 in order to reduce out-of-wedlock pregnancies. Those households that had another child whilst they were still receiving social assistance were denied an increase in welfare benefits. Halpern (1999) calculated a 1.7 times higher risk of poverty for children born to an unmarried mother compared to children born to married mothers. Children born out of wedlock in the US are thus perceived to display a higher future likelihood of rivalry. The family cap measure can therefore be regarded as a measure of preventive exclusion. The reform of the American welfare state in 1996 enabled the federal states to implement family caps without federal approval. Family caps currently affect about 50 per cent of all welfare receivers (U.S. GAO 2001: 2). In addition to family caps a second incentive-based system has been introduced to reward efforts of the federal states to reduce the births of welfare recipients. Twenty million US dollars are available every year for the five federal states that demonstrate the highest reduction in out-of-wedlock births. In this context, however, it must be remembered that out-of-wedlock births are not in themselves to be regarded as problematic, but rather the fact that children born out of wedlock face a higher probability of living in poverty, of receiving insufficient education and thus of facing a high risk of rivalry in the future. This reduction, however, cannot be reached by an increase in abortions. In this case states are disqualified and do not get the bonus. The incentive is directed at the reduction of both the out-of-wedlock births and the abortion rates (Stark & Levin-Epstein 1999: 23).[33]

The effectiveness of family caps is disputable. Two evaluations that have been conducted in waiver states have given different results. Whilst the evaluation in Arkansas (Turturro, Benda & Turney 1997) does not show a significant impact on birth rates, a study conducted in New Jersey (Camasso, Harvey, Jagannathan & Killingsworth 1998) shows exactly the opposite and displays a significant reduction of births. The effectiveness of the measure has been furthermore discussed in the American economic literature with mixed results. Kearney (2004) negates any systematic effect of family caps on fertility, Horvath-Rose and Peters (2001) and Averett, Argys and Rees (2000) on the other hand confirm a fertility-decreasing effect. The ability of federal states to introduce family caps as a direct negative incentive aimed at reducing the fertility of welfare receivers, who supposedly underinvest in their children, definitely is the most direct and conspicuous way in which the club strategy of optimal exclusion and inclusion can be directed at birth members. It is however worth noting that the fundamental change in the American welfare legislation in 1996 can in general be interpreted as such a measure of optimal exclusion. In order to clarify this, a brief description of politics of the state of Kansas, which introduced a family cap as a waiver before the reform but abolished it again after the PRWORA reform in 1996, is useful. The reason for the abolishment however was not disaffirmation or criticism of the goals of the family caps. The state of Kansas argued that the maximum limit of five years to receive social assistance, which is one of the cornerstones of PRWORA, already works as an effective instrument for reducing the number of children born to welfare recipients. Consequently the usage of family caps as additional facultative measures did not seem to be necessary (Stark & Levin-Epstein 1999: 7). The experience of Kansas therefore indicates that also those elements of the reform of the American welfare state which are not aimed at directly influencing fertility such as the introduction of a time limit of welfare reception can be related to the postulations of a rational club policy. An encouraging version, exemplified by the German case, centres on the furtherance of the positive external effects of children while the sanctioning version sets negative incentives and thus seeks to avoid negative external effects (see also Rürup & Gruescu 2003: 6).

These short examples of positive and negative incentives for the production of birth members reveal that some efforts aimed at influencing birth membership of states may indeed fit into the theory of club theory. Accordingly it can be observed that states to a certain point act as clubs also as far as the second membership category, birth membership, is concerned. Family policy has as its aim optimal exclusion and inclusion as well – not in a clumsy way by enlarging the option of physical exclusion also to the birth members, but in a more sophisticated

and indirect way by the introduction of positive and/or negative incentives for the production of new birth members. Positive incentives improve the conditions for those groups that are assumed to invest more in their children; accordingly this group's demand for children is increased by the reduction of the relative price indicated by the respective opportunity costs. Negative incentives in contrast (such as family caps) aim at increasing the relative price of the basic commodity 'children' for groups with assumed low investment propensities. The ratio of a rational club policy, optimal exclusion as well as inclusion, is also the basis for a policy directed at the quantitatively more-relevant birth members. Of course it cannot be overlooked that exclusion and inclusion for birth members is much more complicated and a much smaller level of success is enjoyed by policies aimed at influencing birth membership than for immigrant members. Nevertheless, states seem to be fully aware of the restrictions on including and excluding birth members. Consequently, states adopt a different strategy aimed at dealing with the problem of optimal exclusion and inclusion of such members. This is done by the introduction of positive and negative incentives aimed at supporting parents with high investment tendencies and penalising those with low investment tendencies in their children.

5 Conclusion: the club theory as a reflexive mechanism of state membership policies

The title of this article already suggests a certain parallel between the behaviour of states and clubs. It implies that, at least prima facie, states do, in fact, act like clubs. However, this claim cannot be maintained following a closer analysis since it is overly strong and would distort the main argument of the article (see also Bauböck 1994: 170). The empirical limits of club theory for the explanation of immigration policies appear quite soon upon taking a closer look at the present migration streams in most western countries. In most societies, family migrants and refugees constitute the quantitatively most important migratory group. Neither the number of refugees coming to Europe or the US nor the family migrants fit the assumptions of the club model because the inclusion of these groups is not generally consistent with the recommendations of club theory. According to the principles of club theory, these migrations are not optimal since they do not necessarily fit into the scheme of rivalry assessment indicated above. This has important implications for the status of the club theory and also for the following line of argumentation. Similar limits, of course, also apply to the category of birth membership as the right to live with and to found a family, which belongs to the basic rights of liberal democracies

(Bommes 2003: 51) and which limits the scope for state intervention. Birth membership therefore cannot be regulated in a direct way, but can only be moulded indirectly by the application of a kind of 'demographic social engineering', which in this context is the setting of incentives to influence the individual fertility decision.

The application of club theory to the question of state membership should not be seen too empirically. It cannot be argued that states really behave like clubs. Club theory should rather be interpreted as an idealised construct for several considerations on practical policy and as a kind of reflexive mechanism states rely on for solving one of their basic questions. States need members and face the problem of finding a mechanism for deciding whether an individual applicant should be granted membership or not. In this context club theory can be interpreted as a reflexive mechanism to help make decisions around this question. Club theory offers a recommendation as to how to make this decision, and states follow this to a certain extent. The recommendation, however, is an ideal construct and not applicable in a ratio of one to one. Family and refugee migration indicate the limits of such a recommendation and overrule this orientation scheme. Both occur for particular reasons. In this respect the international asylum system, which includes the 1951 Geneva Convention and the United Nations High Commissioner for Refugees, can be understood as a special 'repair mechanism' to respond to the breakdown of a territorially based system of universal inclusion, in the form of states' expulsion or persecution of their members (Bommes 1999).[34] This 'repair mechanism' requires the violation of the club-theory-based principle of optimal exclusion and inclusion because the exclusion of refugees who have 'no other state to fall back on for protection' would be comparable to an internal exclusion of someone who already resides in the state and thus would stand for 'discrimination in a meaningful sense' (Joppke 2005: 46, 58). A similar argument can be applied to the migratory phenomenon of family reunification. One important achievement of modern society is that every individual has the right to found and to live with a family (Bommes 2003: 51). The right has been institutionalised in international and national laws,[35] limits short-term state intervention in migratory processes and affects both membership categories of state action. The guarantee of this right in liberal democracies stands above any state attempt to regulate the population according to the principles of the club theory. Therefore the direct and immediate transfer of the club theory to the action of states in the context of their membership policies, which have been defined in this context as family and immigration policies, must fail. The theoretical construct of the club theory contains a hypothetical form of rationality which is not applicable to the complicated business of policymaking. This, however, does not en-

tail the irrelevance of the application of the club theory to immigration policy, but instead changes the status of the theory. Club theory should not be seen as an empirically accurate description, but as an ideal construct that makes sense when considering practical policy issues. Nation-states use club theory as a reflexive mechanism or orientation scheme for the observation of the population and rely on it to answer the question of who should and who should not become a new member. This question is one element of the structural emergency states permanently undergo. This structural emergency concerns the permanent need of states to decide on state membership, because states can neither be indifferent to the composition of their population nor can they act without members. Using the categories of club theory for the principle rationalisation of the population provides a guide for states as to how to deal with this emergency, but does not imply that states can and do behave exactly like clubs.

Notes

1 The most impressive examples in this context are the studies of Becker on fertility (1981) and discrimination (1957) and the work of Downs on democracy (1957).

2 Club collective goods differ from individual goods by their partial non-rivalry in consumption and differ from pure collective goods in that non-members can be excluded. Building on Tiebout (1956), Frey and Eichenberger (1999) have used a similar approach to argue for functional, overlapping and competing jurisdictions (FOCJ) in which the economic element of club membership would be complemented by elements of direct democracy.

3 See Fischer, Holm, Malmberg and Straubhaar (2000) for a theoretical approach seeking to explain this dichotomy.

4 The 'flexible legal-mechanism' (Joppke 2003: 435) that ascribes birth membership to people who are born on the territory of the respective state is called *ius soli* whereas *ius sanguinis* is a right by which birth membership is granted to any individual born to a parent who is a national or citizen of that state.

5 See also Joppke (1999: 281) who argues in a similar vein: 'if states could exclude their own nationals, they could no longer exclude aliens – because no state would be required to take them.'

6 Of course there are many more ways of *moulding* the population such as displacing state borders, secessions and eviction (Tietzel 1995: 118). These ways, however, are not acceptable or realisable in democracies and thus will be neglected for the following considerations.

7 This is a common trend in most industrialised countries that takes place, however, at a different intensity and speed. In the US, this redesign was entitled 'from welfare to workfare' and was conducted by the Clinton administration in the middle-1990s. The German equivalent label is 'active supporting and demanding' (*Fördern und Fordern*) and was initiated by the red-green coalition in the early 2000s.

8 It is worth noting, however, that in this context the problems linked with migration are by no means specific problems of migration, but rather general problems of the welfare state (Straubhaar 2002: 60).

9 For a long time, restrictive immigration preferences of the electorate have been demonstrated by opinion polls in many countries. See for the US Simon & Lynch (1999: 455–467) and for Germany Winkler (2003: 33–38).
10 The divergence between the electorate's restrictive preferences concerning immigration policy and the liberal policy outcomes has been discussed in migration research for quite a while. Debates about the so-called 'gap-hypothesis' initiated a fruitful theoretical competition between neo-institutionalist studies (Soysal 1994; Hollifield 1992) and political economy approaches (Freeman 1995; Money 1999).
11 Aspects of the quantity of birth membership have been reported even in the media. This occurred when new data from the German microcensus indicated that about 40 per cent of all women with an academic background do not have any children (Allmendinger & Dressel 2005: 25; see for more details Engstler & Menning 2003: 72-74).
12 In many of his publications Becker finds, much to his surprise, that fertility and other socially relevant topics such as discrimination, drug addiction, political decision making and the like have been neglected by economists for a long time. In Becker's view, economics possesses the adequate theoretical and methodological tools to expand the analysis to topics that at first glance do not seem to belong to the economists' interest. Becker (1976: 8) claims that 'the economic approach is a comprehensive one that is applicable to all human behaviour'. Correspondingly Lazear (2000: 105) argues that 'Becker is surely the economist who has done the most to expand the boundaries of economics into the other social sciences'.
13 Using the term 'basic commodities' to describe children is rather provocative and takes some time getting used to. On the other hand, to a high degree this interpretation circumscribes the daily life experience of parents: children indeed enter the utility function of the parents, while also absorbing resources and costing money. According to Meyer (1987) economic theories find their first challenge by confronting them with plausible everyday experiences.
14 The shrinking demand for children therefore is the consequence of a substitution effect that dominates the income effect. This corresponds to the assumption of the traditional microeconomic price theory.
15 This goal to enable equal opportunities independent from the social background is without any controversy in most industrialised countries.
16 The Programme for International Student Assessment (PISA), run by the OECD in more than 40 countries, is a triennial world-wide test of fifteen-year-old schoolchildren's school performance.
17 Wingen (1997: 21-27) differentiates between family policy, population policy, women policy and children policy. Population policy as a policy field is highly discredited because of the negative experiences during the Nazi regime. The established term used to refer to policy measures aimed at influencing the structure and development of population in Germany is family policy.
18 The same is true for most other EU states. Currently, only Ireland reaches the reproduction rate.
19 Because of the variety of family policy benefits it is difficult to quantify the precise volume. Similar to Allmendinger and Dressel (2005), the Deutsche Bundesbank (2002: 21) quantifies the benefits with € 150 billion.
20 This applies to the Western German federal states (Bundesländer). In East Germany the provision of care infrastructure is much better. Germany cannot be analysed as one country in this respect. The following statements thus mainly hold for West Germany. See Spieß and Wrohlich (2005: 33-34).
21 Theoretically this also applies to men, in empirical terms this is however much more relevant for women. See Wingen (1997: 166) and Beblo and Wolf (2002: 83). This

disequilibrium triggers the German ministry of family recurrently to start campaigns aimed at enhancing male participation in child education. Hufnagel (2002), however, indicates that the high costs of an egalitarian partnership challenge the aim of an equal distribution of market and household activities.

22 At this point a positive correlation between female employment and higher education is assumed. Empirically this seems to be the case in many respects (Bertram, Rösler & Ehlert 2005).

23 Rürup and Gruescu (2003: 15) refer to the fact that the level of education within a partnership is rather homogenous.

24 The parent money program replaces up to two-thirds of one parent's salary to a maximum of 1,800 euros a month for fourteen months under the condition that both parents share this period of leave. Otherwise, one parent will only be granted the subsidy for twelve months.

25 This is a radical paradigmatic change of the (social democratic) family policy, which postulated as its main goal the promotion of socially weaker families.

26 Ott (1998: 70) mentions further advantages of allowing women to stay in their job after having a child. Whereas Becker (1981, 1985) recommends a high degree of division of labour between the members of each household, Ott indicates that as a result of a large number of market goods (dishwashers etc.) that can be used for household production, this becomes a kind of 'individual final installation of industrial manufactured intermediary products'. The market-based substitutes for household production therefore make regular employment more attractive, as they allow households to increase their total output.

27 This hypothesis, however, is contentious. The assumption of a polarisation between childless people and families with more than one child is denied by Bertram, Rösler and Ehlert (2005: 11), who instead argue that the demographic problems mainly result from the disappearance of families with more than one child. In addition to some empirical findings some theoretical considerations however also confirm the accuracy of the 'polarisation theory'. The opportunity costs arising from the birth of the first child are much larger than those incurred for the second child, meaning that the decision to have any children at all may well prove more difficult than the decision to have a second or third child.

28 Before the coalition between Social Democrats and the conservative Christian Democratic Union was agreed upon, the CDU rejected the parent money proposal due to fiscal reasons. As well as the expansion of day care facilities, for which there is a consensus between both political parties, the CDU planned to introduce an annual tax-free allowance of € 8,000 per person for every household. In particular families with a higher household income benefit from the tax-free allowances. Also in this case incentives are set for highly qualified and higher-paid women so that they can choose to have children while staying in their jobs. Both programmes underline the importance of an improved infrastructure for child care to avoid breaks in the period of employment and to allow in particular highly skilled women with a high time value to opt for children. The programmes of both main parties in this respect are quite similar (see also Ristau 2005: 17).

29 This also is confirmed by Renate Schmidt (SPD), the former responsible minister for family. In the preface to the report of Rürup and Gruescu (2003), Schmidt underlines the new 'economic charm' of family policy.

30 Similar to the US, Germany also displays a high degree of welfare recipients among single parents (24 per cent compared to 1.5 per cent for couples with one or two children). See Greenwood, Guner and Knowles (2000); Rürup and Gruescu (2003: 39); Berthold and Fehn (2002: 26).

31 The social welfare program Aid to Families with Dependent Children (AFDC) was the relevant law until it was replaced by PRWORA. A part of PRWORA is the programme Temporary Assistance for Needy Families (TANF). TANF enables the federal states to decide for themselves on conditions and level of benefits. See Goos and Schmid (1999: 7); Burt, Pindus and Capizzano (2000: 26).

32 See Rowe and Versteeg (2005: 128-129). Currently this applies to Arizona, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Indiana, Massachusetts, Minnesota, Mississippi, Nebraska, New Jersey, North Carolina, North Dakota, Oklahoma, South Carolina, Tennessee, Virginia and Wyoming.

33 The first bonuses for the simultaneous reduction of out-of-wedlock births and abortions were granted in 1999 to Alabama, Arizona, California, the District of Columbia, Massachusetts and Michigan.

34 This universalism of inclusion can be attributed to the organisational principles of the political system. As the world population is distributed into nation-states, state membership is immediate and in most cases permanent and exclusive. Every individual must be a member somewhere. In case of the violation of the universalism of inclusion by dictatorial states the international asylum system organises the absorption of expelled or otherwise fleeing people by other nation-states and thereby restores this universalism of inclusion.

35 In Germany, immigration policies attempting to limit the founding of families encounter legal limits because of the constitutional protection of the family and because of European Union directives.

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Chinese Student Migration in Europe

A Migration That Nobody Objects To?[1]

Wei Shen

1 Introduction

Relationships between Europe and China are now an important factor in shaping European integration, and China presents a new frontier for European foreign policy. China's booming economic development has a profound effect on the global economy, with concomitant demanding implications for the EU member states.

Migration is one of the most debated global issues in our contemporary society. It poses both vast opportunities and inevitable challenges for sovereign nation states around the world. Over the past fifteen years, Europe has seen an increasing influx of migration from China, both through legal as well as illegal channels. On the one hand, this is a clear indication of the growing trade and economic relations between China and Europe. On the other hand, the management of migratory flows and in particular of those of an irregular nature remains a sensitive area of negotiation.

Meanwhile, Chinatowns can be found in each European capital, from Amsterdam to Madrid. With the enlargement of the European Union, Chinese communities have also spread from 'old' (Western) to the 'new' Europe, for instance, Budapest and Bucharest are now two major focus points for Chinese communities. The migration pattern of Chinese people in Europe is becoming more diverse, with student migration being the most striking feature. As a form of (highly skilled) labour migration, the movement of students has emerged as the new dynamism of international migration. This is evident, for example, in the huge inflow of Chinese students into Europe, particularly to the United Kingdom. It is said to constitute an important social network linking China and Europe. The UK's *New Statesman* has, for example, labelled Chinese student migration, 'a migration that nobody objects to' (*New Statesman*, March 1, 2004). How true is this statement? How many Chinese students are in Europe, what do they do and how well are they integrated into the host societies? Without doubts, student migration brings deep social and economic impacts on Europe, as well as on the

economic sustainability and development of China, and they are important transnational actors and network agents that require both better support and governance to maximise the benefits for both parts.

The UK started to welcome Chinese students already in the nineteenth century. According to the University of Oxford, its first professor in Chinese Studies, Dr James Legge, who was appointed in 1876, arranged for some Chinese students to go to England where they were received by Queen Victoria.[2] After the foundation of the People's Republic of China, the UK had the third largest overseas Chinese students' community, after the United States and Japan. Wang (2005) estimated that there were 443 Chinese students living in the UK in the 1950s before China's shift to the Communist world (USSR and Eastern European countries) and isolation from the West. However, the UK was the first European country to sign an educational exchange agreement with China after the destruction of the decade-long 'Cultural Revolution'. In a public speech to the students of Tsinghua University in 1978, the leader of Communist Party, Deng Xiaoping, made the following important remarks:[3] 'I agree to increase the number of students to be sent abroad to study, mainly natural sciences. We shall see benefits of this within five years; it is one of the key methods to raise China's standards. We must send thousands upon thousands of students, not only ten or a dozen. We should send three or four thousand this year and ten thousand next year. This is the way to speed up. At the moment, our steps are too small, we must accelerate our speed and walk onto wider avenues. On one hand, we need the improvement of our universities; on the other hand, we should send people to study abroad. In this case, we could have a comparison, to see how we are running our universities? The Ministry of Education must research this, at any costs (will be worth of it).'

Deng's plan was to send more than 3,000 students and scholars abroad for further educational training each year and it started with the signing of exchange agreements with various countries since 1978, including the US (1978), the UK (1979), Egypt (1979), Canada (1979), the Netherlands (1979), Italy (1980), Japan (1981), the Federal Republic of Germany (FRG/BRD 1981), France (1981), Belgium (1981) and Australia (1986). Compared to similar agreements signed in the 1950s, there are more Western countries represented and more focused on the economic and technological developments rather than the complex political agenda in the past. Deng was determined 'to rebuild China's scientific community' that was catastrophically reduced during the decade-long anti-intellectual Cultural Revolution (1966-76) that had just ended. Even if 5 per cent did not return, he told critics, the policy would remain a success (quoted in Zweig & Rosen 2003: 1).

Student migration, however, is still a difficult research topic. When compared to other migrant groups such as family migrants and refugees, the numbers of student migrants remain small and the statistics unreliable. For the UK and France, which serve as case studies for this chapter, consequently it is impossible to identify the exact number of Chinese students living in the respective country. What on the other hand becomes entirely clear is the fact that the economic contribution of this migrant group to the host societies has been increasing tremendously not the least since the university systems of various European countries – the UK and France being among of them – has been transformed from state-controlled entities to providers of the marketable commodity education. The introduction and continuing increase of tuition fees changed the role and status of migrant students and turned them into sought-after customers. In figure 1, we can see that the higher education market in the EU is segmented in terms of tuition fees for international postgraduate students, and that, particularly in the UK and in France, tuition fees paid by migrant students are an important source of income for the respective university systems. Tuition fees amount to more than € 25,000 per year for a master in accountancy at the London School of Economics (LSE) and €16,000 at the HEC School of Management in Paris. In contrast to this, foreign students at many Scandinavian and German universities have to pay much less; tuition

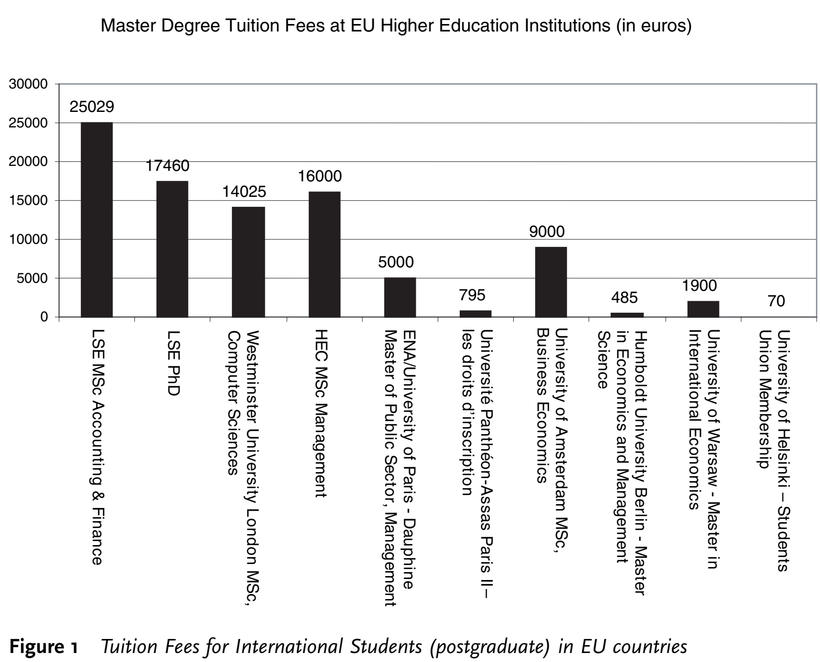


Figure 1 *Tuition Fees for International Students (postgraduate) in EU countries*

Source: university websites; information as per July 2007 for the course/school listed above

fees in Germany, for example, in most cases only amount to € 1,000 per year. With such diverse study costs, tuition is certainly an important criterion for Chinese students when selecting a destination country.

Despite the long history, the increasing size, and the fiscal importance of Chinese student migration, until now there has been little research dedicated to this economic migrant group as a result of the lack of data and other resources. Therefore this paper hopes to explore this 'untouched' group by investigating China's outbound student migration in Europe – to understand the pull and push factors for student migration and to assess the patterns of student flows and their integration and interaction with students' host societies. This paper will provide a contextual basis for background information (both historical and recent) and engage in current debates on Chinese student migration in Europe. Two case studies, that of the UK and that of France, are used to illustrate the importance of Chinese student migration to Europe. They call for further research on Chinese student migration and its deep social and economic impacts for Europe, as well as for the economic sustainability and urban development of China.

2 Research background and data

In addition to shedding light on numbers and structure of stocks and flows of Chinese students, this paper seeks to contribute to discussions about the nexus of migration and development theory. In this both permanent and temporary forms of migration are viewed as development tools (IOM 2003a, 2003b; UNDP 2003). On the one hand, remittances from overseas diasporas (who have usually migrated permanently) have gained substantial praise in contributing to the economic development of sender countries. But the economic impact of such remittances is shown largely to be dissipated in the housing sector and/or used for everyday needs (Jacobs 1984; King 1986). On the other hand, return migration of temporary migrants is said to be both sustainable and attractive (Ghosh 2000). The knowledge transfer and brain gain (Solimano 2002) caused by return migration is far more productive than the increase in the consumptional financial capital. This is particularly the case with return student migration, because of their huge embedded intellectual assets and knowledge.

Based on case studies from Australia, the US and Canada, student migration is often argued to provide the precursor to highly skilled migration (Skeldon 1992). These so-called traditional migration countries have seen a great number of foreign students, particularly from Asia, who once in the receiving country have changed status into economic migrants. The outcome of this movement is not predictable and often

unexpected. Therefore this pattern is often regarded in traditional migration and development studies as constituting a potential 'brain drain' for developing countries, which consequently suffer from the loss of talented individuals (Solimano 2002, 2005). This idea was however first voiced not in developing countries, but in the UK in 1950s, when the Royal Society expressed concerns as to the loss of British scientists to the US. Since then the topic has been on the discussion tables of the United Nations and national governments around the world. Thus the possibility of a brain drain of this sort meant that (labour) migration was not seen as a suitable development tool for many countries. However, recent migration studies have shown many positive sides of (labour) migration, especially in respect of remittances payments, which are now regarded as constituting very important sources of income and development resources for such countries. In some cases, student movements to developed countries are still viewed as part of the brain drain process as many students choose to stay on or to look for jobs in developed countries after their graduation. However, recent research on the nexus of migration and development has suggested a potential win-win situation for both sending and receiving countries as a result of the transfer of knowledge, the financial and human capital provided by returning students and diasporas as well as the benefits provided from trans-national migration networks (Xiang 2005; Vertovec 2004; Nyberg-Sørensen et al. 2002).

Major obstacles in doing research on the international student movement are data limits. One reliable source is from the Organisation for Economic Cooperation and Development (OECD). In their publication (SOPEMI 2001, 2002, 2004) student migration is considered as one of the most important sources of skilled migration between OECD countries. On one hand, highly skilled students working at research level often engage in lab work and academic projects as skilled labour. On the other hand, the high costs of studying abroad have led them to seek part-time jobs in order to defray tuition burdens. As in most cases, migration statistics are generated on the national level and there have been well-documented problems in literature which has used cross-national datasets on international migration (Salt, Singleton & Hogarth 1994; Singleton 1999). In Europe alone, Singleton (1999) has drawn attention to the fact that 'harmonised (data) tabulations', available from EUROSTAT's migration database, consist of national data supplied by the member states (national statistical institutes and ministries), with more than 60 different legislative, administrative and data collection systems across the European Union. The core problem lies in the definition of migrants. According to the United Nations, a migrant is a person who has lived in a country other than his/her own for one year or more. Following this definition, most international stu-

dents are to be regarded as migrants if they are taking part in a degree programme (which usually lasts more than a year), exceptions being those participating in exchange programmes or in other courses of shorter study. However, different governments (and even their ministries and bureaus use their own definitions in migration statistics) pay little consideration to international standards. For example, Singleton & Salt (1999) have pointed out the problems with terminology in statistical data collection and recording, that is, different countries have different definitions for different types of legal and illegal migrants.

Considering the challenges for researchers on student migrant posed by the poor provision of reliable international data this paper uses a combination of quantitative and qualitative methods of data collection. Quantitative sources such as statistical records are collected from national governments and international bodies such as the OECD and UNESCO. In-depth interviews with Chinese students and professionals living in Europe and China were also conducted to collect qualitative data. At the international level, the United Nations Educational, Scientific and Cultural Organisation's *World Education Report* is regarded as the primary source (British Council 2004) for data referring to foreign students with a base period from 1996. The OECD also publishes important student movement data in their annual SOPEMI report as well as in their education statistics. The key national sources come from the ministries of education and other higher education agencies as well as statistical bureaus, which are the direct government bodies for recording the incoming and outgoing population movements of students.

3 Migration from China to Europe

Migration from China to Europe has existed for a long time. Chinese migrants arrived in Germany and the UK as early as the first half of the eighteenth century. The Chinese community is one of London's oldest communities, dating back to the mid-nineteenth century. In France, the settlement of Chinese sojourners can be traced to the beginning of the twentieth century (Archaimbault 1952). The total stock of Chinese migrants in Europe is smaller than in North Americas and Oceania and is mainly concentrated in a few countries including the United Kingdom, France, the Netherlands and Italy. China, however, is the main non-European source country of migrants to OECD countries. According to SOPEMI data, China is ranked seventh on the list of the most important immigration countries in France in 2004; in total, 2,800 Chinese citizens immigrated to France in that year. In the UK in the same year only Australian immigrants outnumbered the Chinese as the main immigrant group; the total number of Chinese

immigrants amounted to 18,500. It was 1999 when the number of Chinese immigrants to the UK almost tripled from 5,800 to 15,100 and has remained at a high level since then (SOPEMI 2006). Chinese migrants are usually considered to constitute a quiet, hard-working and entrepreneurial ethnic group with few political and social problems (Giese 2003). In the past two decades, there has been a sharp increase in Chinese migration to Europe. However this flow is often overshadowed by the media coverage of illegal Chinese migrants. The tragic events at Dover[4] (June 2000) and Morecambe Bay[5] (February 2004) have put Chinese migration firmly in the media limelight and have made it into a subject of intense public debate. Nevertheless this cannot be seen as constituting the complete picture of Chinese migration. Recent statistics and research (IOM 2003b; Laczko 2003; Pieke 2004) have shown the increasing diversity of Chinese migration. In particular, student migration from China has become a notable trend in Europe.

Since the economic reform in China in the late 1970s, the Chinese government has deregulated its policy allowing more students to study abroad (Yao 2004). China's recent entry to the World Trade Organisation has given wealthy Chinese families further incentives to send their children abroad to acquire foreign qualifications so that they might secure a good career in China after graduation. According to a recent report from UNESCO and China's Ministry of Education (2003), China is the number one source country for international students, with 460,000 in 103 countries across the world in 2002. The Americas play host to most Chinese students (32.1 per cent) followed by Europe (27.9 per cent), Asia (25.2 per cent) and Oceania (14.2 per cent) while Africa has less than 1 per cent of all Chinese students studying abroad. European countries, especially the UK, Germany and France, have become popular destinations for Chinese student migration.

4 Case studies: the UK and France

Geographic selectivity in the movement of students is said to be associated with the differences in urban development (O'Connor 2005). This can explain the concentration of Chinese students in major European cities, particularly capital cities due to their size, reputation, highly urbanised infrastructure and metropolitan lifestyle. Most Chinese students in Europe come from urban areas in China, therefore bigger cities could provide more services and similar living standards to those that students are used to when at home. National education systems in some European countries also play a role in the distribution of higher education institutions. For example, most universities are

concentrated in the Randstadt in the case of the Netherlands and most of the elite grande écoles (e.g. HEC, Sciences-Po, ESSEC, EAP-ESCP) are located in Paris.

There are also exceptions, such as smaller university towns in the UK (Cambridge, Oxford), in Germany (Heidelberg) and Sweden (Lund). London and Paris are the economic, financial, political and cultural centres for the UK and France respectively. Both of them have the highest density of higher education institutions and have become bases for Chinese students in both countries. Although Germany has the second largest population of Chinese students in Europe, there are no cities which are comparable to London and Paris (as a result of the federal structure of Germany, the country's economy is more decentralised and more or less evenly distributed across its regions. In this way the country's political capital is Berlin, its financial capital is Frankfurt, its trade and shipping centre is Hamburg, its business centre is Munich and so on, whereas the UK and France provide examples of two highly centralised economies).

The UK and France represent two distinct global streams and networks – Anglo-Saxon and Francophone. In addition, both the UK and France have long traditions of managing education and host some of the best business schools in Europe, thus allowing Chinese students easier access to courses, considering a large number of them study business subjects in Europe. Thus the cultural and language differences and the presence of business schools in the global cities of London and Paris provide a good basis for a comparative analysis both of Chinese students in the UK and France, and of their motivation for choosing the respective country.

4.1 The UK

Following Deng's plan to use student migration from China as a precursor to technology transfer for the country, China started to send students to study in the UK. The majority of the students were sponsored by either the Chinese or the British government under specific education cooperation. However, the Open Door Policy brought more disposable income for Chinese families, and with the deregulation of the migration control policy in China in 1986, the number of self-financed Chinese students started to grow. This has become more significant in the past decade; BBC's correspondent wrote about this in the article 'Chinese Students Flock to Europe'.[6] A recent survey carried out by the Royal Institute of International Affairs (2004) has shown the significant financial contributions of Chinese students in the UK to British universities and to the economy in general. In the UK alone, the embassy of P.R. China in London estimates that there were as many as

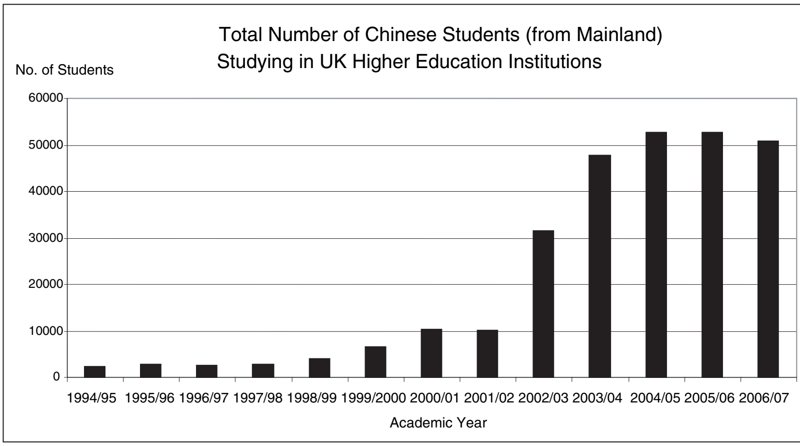


Figure 2 *Historical record of Chinese students studying at higher education institutions in the UK*
Source: Higher Education Statistics Agency

80,000 Chinese students registered in the academic year 2004/2005, a massive increase of 10,000 from the previous academic year. Figure 2 clearly demonstrates the increasing number of students from China studying in the UK.

In 2004, the UK overtook the US as the single most popular destination for Chinese students. The number of Chinese students has increased dramatically in the past decade. It is difficult to estimate the exact number of Chinese students in the UK although during an interview with the education division of the Chinese embassy in London in 2005, it was suggested that the number of Chinese students in the UK is in the realm of 80,000 in the academic year of 2004/2005. Most Chinese students pursue studies in economics and business subjects and are spread across universities from Aberdeen to York. Chinese students provide significant contributions to UK universities and economy.

However, there are also concerns about this dramatic increase of Chinese students in the UK. Local UK residents are starting to worry about local students' access to education, especially in the popular and highly ranked universities due to the tighter admission competition with international students. The quality of education is also being questioned as many international students do not have a sufficient knowledge of English language, something that reduces the teaching quality, both in speed of delivery and depth of content and intellectual rigour. The injection of foreign students also puts pressures on the local labour market and may sometimes create tension with local students and residents. The fierce competition between universities and schools has also resulted in a lowering of admission standards, meaning that underqualified students may be allowed to study at British

higher education institutions. Some of them have to drop out later and then are induced or forced to join illegal work, such as drug dealing or prostitution and some may even become mixed up with criminal gangs, which pose even more security threats to the community. Younger Chinese students are often also the victims of bullying, robbery and organised crime. Some academic institutions also advertise their courses as means for students to migrate to the UK as reported by the south Yorkshire police, who identified what they describe as a widespread scam that reveals a loophole in legislation and regulation:[7] 'Our investigations have revealed that under the guise of providing educational courses some colleges are charging foreign nationals several thousand pounds to facilitate their entry into the UK. The individuals enter the UK as vocational students but the actual educational component of their training is nil. They are, in effect, put to work without work permits on the pretence that this is *on the job* training' (South Yorkshire Policy 2006).

Recently the UK government has implemented new legislation allowing students to gain work experience in UK with the aim of being more competitive in the global education market. However they are mainly sector based and only cover students in medical, IT and some other sciences subjects. Flexibility in entry procedure and streamlining of visa services are also part of the new policy. According to the education section of the British Mission in China, 19,632 visas were issued in 2004. A substantial number of visa applications were also refused (approximately 20 to 30 per cent per year according to Chinese media and the British embassy).

That this is the case is mainly attributed to fake documents supplied by the applicants and misleading behaviour on the part of student recruitment agencies. Under the new policy, students are not required to attend an interview and in many cases judgements are based solely on the documents supplied by the applicants. Thus in order to manage this new form of migratory flow better management is required in migration and integration such as regulation of student recruitment agents, intra- and inter-governmental cooperation in student data, records and so on. In order to find out how effective these new migration polices are, in-depth interviews are made with Chinese students in the UK. The three interviews below summarise some of the issues which still needs to be dealt by the UK government:[8]

(1) Case A (visa and extension fees): Student A came to the UK to follow a bachelor programme in economics. Because of her low IELTS (International English Language Test System) test scores she was admitted with conditions to her chosen university. One requirement for entering her degree programme is satisfactory participation in the pre-university

language course organised by the university. Because of her conditional offer, she was granted a visa only for the duration of the language course. At the end of her language course, she had to apply for an extension for her visa. This required not only a lot of preparation, but also costs her a large sum in application fees. Student A is concerned about having to pay another £ 500 for a visa extension if she does not finish her bachelor programme in three years' time (because of placement). Visa extension fees have become an increasing financial burden especially after the raise of service charges by the Home Office. This is quite a common case for many students who could face a fee of up to £ 500 for extending their stay in the UK. Figure three shows the huge differences in visa fees between the UK and its European counterparts in the Schengen Zone,[9] where the visa fees for all categories including student visas are fixed at only € 60. A total amount of £ 1,000 is more than 10 per cent of her annual tuition fees and much more than the average annual income of a worker in China as said by Student A. These high visa extension fees have been described as very disappointing by UK universities and many UK educational institutes are nervous about its 'detrimental' impact on their recruitment of international students. This may also lead to the opportunistic behaviour of international students to overstay in order to finish their studies without paying the extension fees.

(2) Case study B (communication problem within UK Government): Student B came to pursue a PhD degree at a UK university. He was issued a three-year student visa. However, as part of his research funding, he has been selected to work as a research assistant at the university in

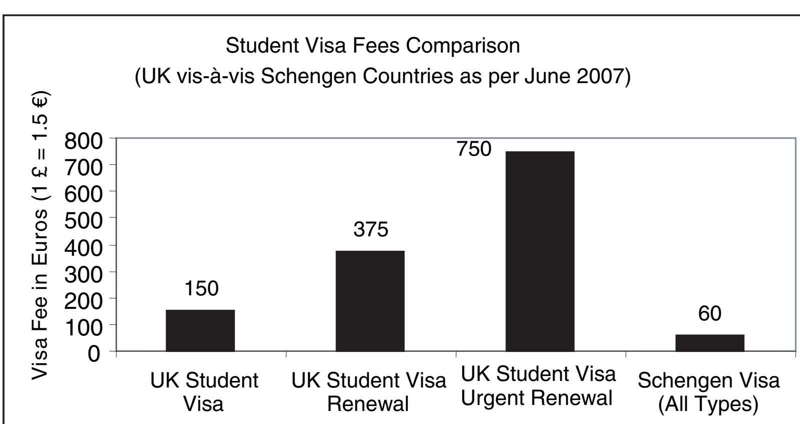


Figure 3 *Student visa fee comparison in Europe*

Source: British embassy in China and German embassy in London

the summer prior to his PhD. After the hassles of getting a work permit, he applied for and was later granted another visa for his work permit (valid for six months) at the British Consulate in China. He was assured that it would be safe to have two visas and it would not create any problem for his immigration status. Upon arrival in the UK, he used his work permit visa to pass through the immigration control. When the student arrived in the university, he registered at the local police station with his two visas and was told everything is correct in order.

However, when he applied for a European Schengen visa, he was told by the head of consular services of a European embassy that his long-term UK visa is not valid as it was issued before the short-term work permit visa (which would expire shortly). The student then was told to go to Home Office Headquarters in Croydon to verify his immigration status. After queuing in the rain and heavy winds outside the Home Office for hours, the student was told his student visa is not valid and he needs to get a new visa immediately. He was given the option to apply either by post or by premium service which will cost up to £ 500. One other option is to get a new visa or certification from the British Consulate in China or get his old student visa approved and stamped at the passport control at British border. But he was warned about the possibility of being refused to enter although he had a valid UK student visa.

This was a very difficult situation for a student who just arrived in the UK and early on faced the risk of being expelled. This example shows the lack of communication between different UK governmental bodies in managing student migration, in terms of visa issuance. Although policy registration is compulsory it proved to have no legal power when the student presented his registration certificate in the Home Office. Eventually this Chinese student had to apply for a new student visa at an overseas British Mission and cancel his previous student visa. So in total, a student who strictly followed all immigration rules ended up having three visas in his passport and spent countless days and nights worrying about his immigration position. This situation could easily be avoided by a more coordinated effort (data sharing, information exchange, etc.) by different administrative bodies to provide a more simplified and user-friendly immigration service to international students who often have little knowledge of legal and immigration rules.

(3) Case study C (student worker or working student?): Student C comes from a middle-income family in China. His family has exhausted all of their financial resources to support him to study in the UK. Unlike those from a wealthy background, his family expects him

to find a part-time job to defray the studying costs and financial pressure from the parents. Student C studies in London – one of the most expensive places in the world. He expected to have good chance to find petty jobs in London. With his limited language skills, he was already behind the class during the first semester of his studies. Instead of spending more time in the library, he had to work to finance his daily expenses. This made his studies worse. At the end, he decided to work full-time and barely went to his university. His family does not know about this and thought he was a good student and worked hard in his spare time. He was also too ashamed to tell his family about his real situation when he went for a home visit. He knows his family expects him to find a good job in London and earn the money back in the UK.

However, as his student visa is expiring soon, he needs to extend his visa. Obviously, his university will not provide another registration certificate, because he failed most of his courses. So he found a language school that charged him tuition fees and gave him the necessary papers for visa extension. The school is not interested in his attendance but just in the cash income. Student C can now continue to work in London as a full-time student labourer. In this case, one thing we could not ignore is the working condition these students are facing. They are, in a way, 'stateless' and, under pressure and at risk everyday, they are often exploited by employers because of this.

There is one major drawback to studying in the UK. This is the fact that the UK is outside the pan-European Schengen Agreement that allows third country nationals to move freely within the Schengen area. This poses difficulties for Chinese students' mobility within Europe and is a major obstacle for them to participate in the newly implemented EU programme, Erasmus Mundus.

4.2 France

There has also been a sharp rise in the number of Chinese students in France over the past decade. The Chinese student population increased more than tenfold between 1994 to 2002. Over 4,000 student visas were issued by the French consulates in China in 2003 (see Ministry of National Education/Le Ministère de l'Éducation nationale, France 2004). The French statistics (see figure 4) also show a steady increase in the number of Chinese students enrolled in tertiary education, which reached its peak in 2004. The actual number of Chinese students in France is much higher than the official statistics. In a *People's Daily* report on 27 December 2005, the number of Chinese students registered with the Chinese embassy in France has reached 20,471, an increase of 2,000 more than the previous year.[10]

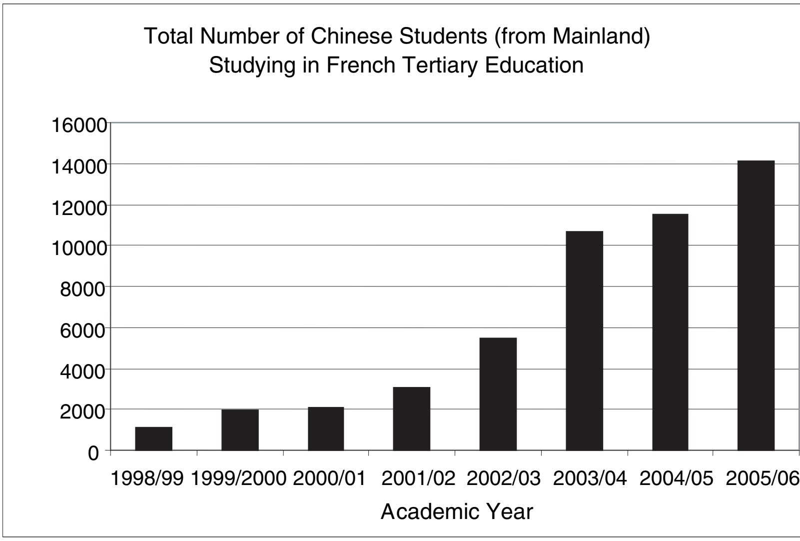


Figure 4 *Total number of Chinese students in France*
Source: OECD Education Database (1999-2002)

An account of the evolution of Chinese student migration in France is given in fig. 4. These results were obtained from a period of qualitative research carried out with more than 38 Chinese students from elite French business schools in 2006.

(1) *1980 to 1989 Post-Cultural Revolution*. Historical situation: The higher education reform in China led to a number of government-sponsored programmes (such as by the Ministry of Trade), allowing students to study in France. Student profile: most of the Chinese students in this period studied French purely by chance, that is, by either university or government arrangements.

(2) *1989/1990 to 2000 post-Tian An Men*. At this stage the majority of students were still being sponsored by the Chinese government but the Chinese government's deregulation of student entry and exit resulted in students financing their own studies in France for the first time. During the early 1990s, many students regarded their decision to go abroad as taking a breath of fresh air or tasting the freedom. France was an ideal place because of its fame for students' revolution and the spirit of liberty. Those students who were either financing themselves or partially financing themselves were in contrast more interested in their career development and the prospects that their studies in France would bring them. This period was viewed as a golden age by many of the interviewees because of the opening up and growth of China's new market economy and healthy French economy. This decade provided Chinese students with many excellent opportunities to work in France

or in China and to develop economic ties between these two countries. Many of them have since become key managerial staff in multinationals or have started their own businesses.

(3) *2000 and post-9/11.* The major wave of Chinese students studying in France started at the end of the 1990s and at the beginning of the new millennium. Most of these students are now self-financing. They are careerists, many of them have strong ties and previous links with France – they have either studied French or have worked in a French company (except INSEAD students). Chinese students show a high degree of international mobility in their studies and work by participating in school exchanges or traineeships abroad.

The tragic terrorist attack in New York in 2001 seems to be a defining and turning point for many Chinese students. Their career plans had to be changed because of the economic depression following the global terrorist attacks. Some Chinese students were faced with tough labour markets and therefore decided to return to China willingly or unwillingly. However, the economic prosperity back at home also contributed to the return of Chinese students. This refers to the question of the determinants of the migration decision of student migrants. As already indicated the level of the tuition fees is certainly an important criterion for Chinese students to select a destination country. However, as we all know, migration is a complex process and there are many reasons for people to go abroad and where. This also applies to student migration, as the choice of location needs to be made and there are various rationales behind this, including professional, personal and language issues, just to name a few. In addition to the tuition factor shown above, there are some other factors influencing Chinese students' decision. Below are some case studies of Chinese students who have studied in France illustrating other decision factors:

(1) Educational background and languages. Most students who are interviewed have studied either languages or business and economics in China before going to France. A few students study French as their major at the university because of the romanticised image of France, its cultures, language and linguistics. French is also seen as helpful for the future job market as English is widely taught in China from primary school throughout university education. Miss D (joint bachelor degrees in French and business) studied French at university in China before she went to France due to her interest in French literature and studying in France later seemed to be a natural choice for her: 'I majored in French because my interest in literatures and French literature is vast. I have already studied English therefore I have the base for self-studies, no need to study further. On the contrary, I thought French would be an added advantage.' Those students who did not choose French as their university major share the view that language (such as

French) is just a tool for the business world, while business studies provide you with the knowledge and skills are the keys for finding a suitable job: 'Before I went to university, I thought French was a very nice language and France is a country with a lot of culture and history, but eventually I could not resist the temptation of real life and chose to study finance by the recommendation of my schoolteacher,' Miss W (bachelor in international finance).

(2) Professional Background. Most interviewees worked for multinational corporations after receiving their undergraduate degrees in China. The interviewees who graduated before the 1990s were usually given arranged employment by the state. Because of their language skills, they were mainly assigned to government ministries or major state-owned export/import companies. The majority of the interviewees who finished their university education in the 1990s benefited from the 'open door policy' and consequent economic development. They were able to do internships and part-time jobs during their studies and chose their own work upon graduation. Many students who majored in the French language therefore had opportunities to intern for French companies and organisations (the French embassy, *Le Monde*, etc.). Most of them then continued to work for French companies after their studies. Those students who did not major in French usually embark on their career in their specialised fields.

(3) Contacts with France. Many interviewees have indicated they have either had French clients or other business and personal contacts before they went to France. However, INSEAD graduates seem to have no or minimum contacts with France. At INSEAD, although foreign languages are compulsory for admission and graduation, the MBA programme is predominantly taught in English. According to Miss D (ESSEC Graduate):

> *I used to intern for Danone in Guangzhou for marketing promotion and act as interpreter for Guangdong Trade Exhibition during my university education. The biggest French investor in Guangdong was Peugeot in Da Ya Bay. However, the year when I graduated, France's arms trade with Taiwan deteriorated the relationship between China and France. Consequently, there were very few employment opportunities with French companies, much less than the previous classes. During that period, the French Consulate was even closed and Guangzhou's metro project was also contracted to German company. Therefore I had to work for a Hong Kong firm instead.*

(4) Reasons for choosing France. Studying in France is seen as an important step to gain knowledge of French society and language for those

who plan on working for French companies in the future. According to Miss H (EXCP-EAP):

> *As you know I studied French at my university, but this is not enough. I find my colleagues were having difficulties when communicating with French clients. Although I could only speak 'bonjour' and 'salut' but these were enough. And our French clients like the 'English mixed with French' way of communication. So I decided to study French at Alliance Française where I got to know about the excellent business schools in France. I was also told that these top schools are recruiting in China and Chinese students could have the opportunities to study in France. I feel this could be a good opportunity for me and my former boss always encourages young people gain further studies and knowledge. Also by studying in France, I could have change to improve my French language ability. English (language) is not a problem for me, (and by studying in France) now I could have two languages on my hands.*

As we could see, the length of programmes, tuition and living costs are all important in choosing a business school. Besides these, the location of France is also appealing for Chinese students. They can travel freely within the continent using their EU visa, which is different when compared to the visa restrictions and formalities they would face if they chose to study in the UK. According to Miss D (INSEAD):

> *Of course, Paris does have a traditional image of being a romantic city; but more importantly, I think Paris and France will bring me a different exposure from the other English speaking countries I am familiar with. But on the other side, for many women, Paris is very attractive; therefore I think it would be to live there and experience it, which is very different from being a tourist there.*

5 Conclusions

Europe and China both have a long history of civilisation. In today's world affairs, they also play complementary roles in many spheres. China's rising economy and growing partnership with Europe is reflected in the increasing migratory flow (including students, skilled workers, business travellers and tourists) between China and European countries. This transnationalism and the mobility of students is an important part of the China-EU political, economic and cultural relations.

Both Europe and China need fresh talents to construct their knowledge-based societies. China's huge population and its educational

needs cannot be met with its existing university system. Therefore the internationalisation of education, difficult university entrance examinations and family pressure for university education has obliged Chinese students to seek alternative sources of learning outside China. Entry to the WTO once more raises the demand for internationally trained human resources, adding more incentives for Chinese families to send children abroad for studying. For Europe, this massive student influx will be an opportunity to develop and strengthen its education system. The internationalisation in education will give more incentives for European countries to improve their education policies in the direction of the Europeanisation. The newly implemented Erasmus Mundus programme is an example of how the increasingly globally connected education system is changing the traditionally nationally based education systems. It is also an important step towards the ambitious Lisbon Strategy.

Equally important is the social impact of these student migrants. In the age of globalisation, migration and multiculturalism, Chinese students are highly relevant to the formation of a diverse community. Foreign students, including Chinese students, tend to concentrate in capitals and other large cities in Europe, because of the multicultural living environment and the vast employment opportunities. Both France and the UK allow students to work part-time during terms and full time in summer and winter holidays. Thus living in a big city makes it easier for Chinese students to take part-time employment and seek full-time traineeship or jobs; as one interviewee said: 'I chose to live in Paris because I am in the heart of the French economy. It is very easy to pick up some petty cash jobs when I don't have any classes. I can also meet more companies and have more contacts for jobs after my studies and for my internships. I can go to interviews any time since most of the companies are based in Paris. If I don't live in Paris, it will be difficult and expensive for me to come for every interview'.

However it is not enough just to treat Chinese and other international students as 'saviours' of under-funded universities. The massive increase in student inflow in Europe raises concerns about modifications to immigration policies that might be required and the question of whether this inflow is dealt with in an orderly manner has become a matter of social debate. It is also essential to recognise the role that the recruitment of international students plays in increasing universities' foreign relations and to incorporate the student community into city management and policymaking (Van den Berg & Russo 2004). Student communities are a vital component of city development. They add a fresh, creative and innovative spirit to urban cultures of our cities. Students from these cities are the potentially highly skilled workers who will fuel urban development once they graduate.

For China, student return migration has become a 'calculated strategy' of the national government (Zweig 2006) to accumulate skills, knowledge, network and financial resources abroad. Increasing rates of student immigration from China will certainly affect China's ability to integrate itself into global markets. This could be a significant factor in the transferral of knowledge by students to their home regions. The Chinese government and some provincial governments in coastal areas have implemented several recruitment strategies to send Chinese students abroad, so they might later work and invest in China. Due to the lack of adequate data, only limited research in the social sciences has been devoted to this emerging phenomenon. In addition, the multiple economic and social effects of this migration flow have become a dynamic branch of international relations in the same way as refugees and diaspora networks have; this therefore poses challenges for national policies. The recent research and analysis of migration patterns (De Wenden 2004) in a changing Europe has also clearly called for a revision of migration policy, particularly with reference to student migration and other forms of economic migrants. Without doubt, globalisation and borderless education have provided the framework for the development of a student- and youth based network of contacts. This has brought Europe and China, two apparently distant neighbours, ever closer. It is therefore vital for both governments that these links are strengthened and that a greater intellectual and cultural exchange is fostered. The European Commission has highlighted migration as key area of cooperation with China and other developing countries. Therefore it is of great interest both for European governments and for China to conduct more comprehensive policy reviews and improvements so as to ensure a win-win partnership.

Notes

1 I thank the Foundation for Urban and Regional Studies (FURS) for the scholarship I received.

2 University of Oxford Press: www.admin.ox.ac.uk/po/070509.shtml (last accessed: September 2007).

3 More details on *People's Daily*, Xinhua News Agency (2004), 'Deng Xiaoping: most successful returned overseas student', http://english.peopledaily.com.cn/200408/16/eng20040816_153161.html (last accessed: August 2007).

4 On 19 June 2000, 58 people were found dead in the back of a lorry at the English port of Dover. The 54 men and four women are thought to have been illegal immigrants of Chinese origin.

5 On 5 February 2004 in Morecambe Bay, 23 Chinese people lost their lives as they harvested cockles against a rising tide.

6 'Chinese Students Flock to Europe', (Leavey 2004), see: http://news.bbc.co.uk/2/hi/asia-pacific/3590998.stm (last accessed: October 2007).

7 House of Commons Home Affairs Committee briefing note on immigration control: (www.publications.parliament.uk/pa/cm200506/cmselect/cmhaff/775/77509.htm#note260 (last accessed: June 2007).

8 These case studies are drawn from earlier written evidence for the House of Commons' Home Affairs and Immigration Select Committee, see Shen (2006): (www.publications.parliament.uk/pa/cm200506/cmselect/cmhaff/775/775awe31.htm).

9 The Schengen Zone hereby refers to the countries that have joined the Schengen Agreement (established in 1985 in the town of Schengen, in Luxembourg), an agreement among European states which allows for the abolition of systematic border controls between the participating countries.

10 *People's Daily*, 'Over 20,000 Chinese Students and Scholars Study in France', www.zju.edu.cn/english/news/2005(7-12)/news051227.htm (last accessed: October 2007).

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Assessing Interdependencies between Sector Structures and Labour Migration

A Comparative Study of the British and the German Health Sectors[1]

Kirsten Hoesch

1 Labour migration in the British and German health sectors: challenging the demographic argument

Among all the European health and care sectors, the United Kingdom's has experienced without doubt the largest scale overseas recruitment in recent years, and forms a particularly stark contrast to the German health and care sector, which has experienced no significant recruitment of foreign health professionals for decades.[2] In 2003, almost one-third of all doctors employed by the national health service (NHS) had acquired their qualification outside the UK, and in 2001, the number of foreign nurses registering with the Nursing and Midwifery Council exceeded the number of British nurses for the first time. While the British NHS has long employed foreign doctors, nurses and other kinds of therapists, their proportion increased gradually during the 1990s and sharply around the turn of the millennium. Although labour shortages and the occasional use of international recruitment can be observed in Germany since about 2002, figures are fairly diminutive in comparison to the British case. Furthermore the relevant actors seem to be much less inclined to consider international recruitment as an appropriate strategy.

The German and the British cases seem to represent only the two extremes of a wide array of recruitment practices in European health and care sectors. The different use and assessment of international recruitment are puzzling if we take into account an assumption that implicitly underpins most research on the migration of health professionals: ageing societies develop an increasing demand for health and care services (see, e.g. Forcier et al. 2004: 1; Ray et al. 2005).[3] This demand cannot always be met by a 'home-grown' workforce in the short and medium term mainly due to the length of training. Thus the option of international recruitment emerges. Furthermore, it can at least be suspected that states might be inclined to attract highly skilled medical

staff from abroad for economic reasons since training costs for doctors are particularly high.

Since most western industrial countries face similar demographic problems the migration of health and care professionals has become a matter of increasing concern for most OECD countries as well as for developing source countries which are at risk of suffering from a 'brain drain' of skilled personnel. However, the British-German comparison belies the assumption of a direct cause-and-effect chain between ageing societies and increasing demand for foreign doctors, nurses and care assistants. In the face of similar demographic features but diverging demands for overseas health professionals in both countries, the preceding assumption seems to be oversimplified at least at this stage and in need of a more thorough differentiation.

If we divert the focus from demographic similarities rather to national peculiarities, a major difference is striking. Both health sectors are funded and organised in completely different ways: on the one hand the tax-funded and state-run NHS in the UK, on the other hand the contributions-based compulsory health insurance in Germany. Both systems represent models of welfare state financing – the Beveridge model in the UK and the Bismarck model in Germany. The different demand, assessment and use of foreign recruitment on the one hand and different funding and organisational structures on the other hand suggest an interrelation between both of them. This article sets about exploring it. While not fundamentally rejecting the demographic argument it suggests refining it by introducing a complementing assumption: different demand structures and preferences with respect to recruitment in the health sector are closely related to the different structural frameworks at the sector level.[4] The analysis of the sector level also allows widening the rather narrow focus of existent migration research on push-and-pull factors and wage differentials.[5] Moreover, it pays attention to institutional frameworks and state policies other than explicit immigration policy. Since in the global tug for highly skilled workers medical doctors and nurses are generally viewed as possessing scarce skills and therefore can often immigrate more easily than less-skilled professional groups (see Ray et al. 2005: 6), it might be fruitful to examine where immigration and mobility is blocked or facilitated by other actors and stakeholders than policymakers in the respective Home Offices.[6] While this article focuses on medical doctors, for a better understanding of structural contexts it is sometimes necessary to relate developments to those in the area of nurses and other health care workers.

2 Structural characteristics of health sectors

Despite an overall trend towards a gradual introduction of competition, the health sector in general is a rather strongly regulated one. Governmental policies determine the larger framework for the provision and funding of services. Though there is a wide range of different settings of mixed public-private provision of health services, in most OECD countries the state is the main sponsor of health care.[7] This specific involvement of the state is often justified by the character of health services as both collective and merit goods.[8] The implications of this strong grip of the state are threefold:

First, money is not obtained in open markets but allocated by political decisions. Though different types of quasi-markets may exist, supply and demand mostly evolve beyond open competition.

Second, health sectors tend to be sealed off at a national level and health policy is almost exclusively related to the nation-state. Also, despite an increasing 'migration' of patients due to the more recent decisions of the European Court of Justice, patients are still more or less bound to their national system of health services (Oberender & Fleischmann 2002: 83-84).

Third, as a consequence of the strongly national frame of reference, 'health systems are deeply embedded within the social and cultural fabric of each society, and thereby defy simple economic or financial characterization. [...] comparisons must reflect national social contexts, rather than assuming that health systems arrangements exist in splendid social and political isolation.' (Saltman 1997: 9-10).

Given the comparatively marginal impact of the price mechanism and the lack of appropriate incentives, almost all health systems are facing problems of efficiency. Since money is often allocated either by political decision or by negotiations of corporatist actors not being obliged to pay the bill eventually, the steering and information function of the price mechanism does not operate. Depending on the specific design and the inner mechanisms of a health system this produces accordingly specific outcomes. A fruitful approach to analyse these different outcomes and their effects on the performance of health sectors is to compare the different regulatory frameworks that channel individual behaviour by setting specific incentives. Starting from the basic assumptions of rational choice theory and health economics such an approach assumes utility-driven behaviour for both, suppliers and demanders of health services. In terms of efficiency and performance problems it is presumed that they can eventually be traced back to inappropriate incentives. Thus an utterly rational individual behaviour may produce severe economic damage at the collective level.

For instance, the individual might not be aware of costs caused by medical treatment because access to services is experienced as 'free', benefits are in-kind and the absence of an invoice obscures the actual costs. In compulsory health insurance-based systems a more extensive take-up of services can be assumed than in tax-financed systems due to moral-hazard effects: the sense of legal entitlement probably is stronger because the part of the income paid as social security contributions is earmarked. General free rider behaviour is favoured by the awareness that either tax or contributions have to be paid anyway, though it might be bridled by budgetary ceilings on the supply side. Furthermore the general inclination to use services extensively is encouraged by a prevailing asymmetry of information. In the case of illness the patient strongly depends on the information provided by the doctor. Depending on the payment scheme for physicians it might also be a rational strategy on their part to provide as much services as possible. If the overall regulatory framework allows, the doctor as a supplier might be able to determine the demand. However, whether the risk of a supply-induced demand actually becomes active, depends on the specific system of remuneration. Only if the supplier is able to influence his own income he might be inclined to stretch demand artificially (Breyer et al. 2005: 331-350).

Hence, in a comparative perspective the different performances of health sectors can be traced back to individual behaviour and its institutional channelling. While there is a large variety of national frameworks regulating the health sector two main types of funding and organisation can be distinguished: the tax funded health service and the contribution funded compulsory health insurance – with many forms of mélanges in between. The main difference between the funding modes is the earmarking. While contributions in principle are earmarked for a specific purpose, tax revenues can be channelled more freely. Though it can be questioned if from an economist perspective the distinction between these two funding modes makes sense (Kautto 2004: 160) – both forms of payments are compulsory and the benefits provided are at least in the health sector not in proportion to the payments – from an institutional and comparative welfare state research perspective funding modes *do* matter: They are respectively interrelated with specific actor constellations and capacities of state intervention. In tax funded systems health sector resources are part of the overall budget and therefore limited a priori. In budget negotiations they compete with other fields of government policy for scarce economic resources. This direct impact of political decisions on the financial resources of the health sector indicates effective control by governmental policy. Since the state pays the bill it is more legitimised to intervene in the sector, define aims and perform the necessary structural changes than

in insurance based systems (Den Adel et al. 2004: 206-207). Furthermore, stricter ceilings and budgets in tax based systems also favour more drastic rationing.

The proportion of public money in total health care expenditure is often used as an indicator for the level of state penetration and therewith for the relevance of governmental control in the health sector (Alber 1989, 1998). This direct control corresponds with organisational structures that are significantly more homogenous and hierarchic than in insurance systems (Wendt 2003: 19). These latter systems usually lack political controllability. The state has legally transferred instruments of control to corporatist actors. While insurers and suppliers are charged with negotiating the terms of funding and organising health care provision, governmental policy only sets the legal framework for self-administration. Particularly in the preliminary stages of legislation, intermediary bodies dispose of relevant influence.[9] At the same time, self-administration is always threatened to be asymmetrically dominated by some well-organised powerful corporatist actors, usually doctors' associations (Den Adel et al. 2004: 207).[10]

3 The British and the German health sector under structural analysis

Health services in the British health sector are tax funded. Almost three-quarters of NHS funds are raised by taxation whereas around one-fifth derives from national insurance contributions (DoH 2003c). The size of the NHS budget is determined by two main factors: first 'by the state of the economy and government decisions on the priority to be attached to different spending programmes' (Ham 2004: 74); second, by the ability of the NHS to compete successfully for scarce economic resources within the overall budget.[11] It is presumably due to these features that expenditure in the British health sector as a proportion of the GDP has been lower than in many other developed countries for decades. In 2003 its share was 7.7 per cent compared to 11.1 per cent in Germany, 10.1 per cent in France, 8.4 per cent in Italy and 15 per cent in the United States for instance (OECD 2005a).

The NHS contains an effective mechanism for controlling expenditure on health care (Ham 2004: 76). This is a further consequence of the above-mentioned allocation of budgets by governmental decisions. Though doctors are not necessarily directly salaried by the state, the modes of remuneration allow controlling costs in terms of pay. From the very beginning of the NHS the state had a strong grip on doctors' wages by paying hospitals a given budget and doctors a fixed capitation sum for each patient. This practice allowed the treasury to control the

costs of health care far more effectively than in any other OECD country (Glennerster 1995: 51). Though the position of surgeons within the NHS and the specific modes of their reimbursement, salaries and per-capita payments shifted repeatedly due to the various reforms since the NHS' inception,[12] the underlying rationale of centrally allocated budgets is still effective.[13] This means that, unlike in Germany, doctors never have had the capacity to influence their income by stretching demand artificially. Furthermore, the state is the most relevant purchaser of medical services and therefore enabled to reduce prices (Breyer et al. 2005: 438). While the private sector represented a rather marginal segment in the UK it has been gaining importance in the private insurance market since the massive increase of waiting lists in the late 1990s was driving many Britons to seek a more reliable provision in a private contract. The private sector has recently been experiencing a further boost caused by the Labour government's taboo-breaking decision to tender bulk contracts to private suppliers of medical services, thus aiming at increasing competitive pressure on poorly performing NHS trusts (*The Economist* 2005: 14).[14]

While health services originally were administered fairly directly by state institutions, patterns changed repeatedly, in particular since the first introduction of the so-called 'internal market' in 1991. While in 1974 the first significant structural reform of the NHS aimed at unifying health services by bringing under one authority all of the services previously administered by a variety of boards, councils, local and regional authorities (Ham 2004: 23), later reforms rather tended to dismantle top-down structures and mechanisms of central planning. After a first introduction of management principles in 1983, in 1989 the white paper titled 'Working for Patients' laid the ground for the thitherto most radical reform of the NHS. It suggested increasing efficiency by introducing a planned market within which purchasers and providers of health services were separated. This new principle was implemented in 1991.[15] District health authorities acted as purchasers, commissioning contracts to hospitals (NHS trusts) and GPs. They were also in charge of assessing and planning demand for services by collecting and interpreting data (Wendt 2004: 129, Glennerster & Matsaganis 1994: 236). It is quite instructive that in the 1980s and 1990s most radical reforms were effected even against strong opposition and not being the product of consensus or bargaining between government and pressure groups. This illustrates 'the power of the executive in the British system of government and shows that even unpopular policies can be promulgated if the government has the political will to do so' (Ham 2004: 48-49).

Furthermore, the involvement of Prime Minister Thatcher and Health Minister Kenneth Clarke in the most radical of these policies

contributed to their success and showed that ministers matter in terms of shaping British health policy. This also proved to be right when New Labour ascribed highest priority to the NHS at the eve of the 1997 general election, challenging the voters that they had '24 hours to save the NHS' (quoted in *The Economist* 2005: 15). During its first term New Labour tried to tackle problems by undoing the internal market in favour of 'a "third way" of running the NHS – a system based on partnership and driven by performance' (Secretary of State for Health 1997: 10). During its second term it increased the NHS budget in an unprecedented manner to overcome staff shortages. Between 1997/1998 and 2007/2008 funding has increased from £ 34.7 billion to £ 90.2 billion (DoH 2006). All in all the NHS has faced a number of radical reforms. Despite opposition of vested interests the political will eventually succeeded. This indicates the comparatively strong ability of control despite the influence of professional bodies and similar pressure groups. Though there are indeed corporatist actors in the British health sector, they are kept at bay by the integration of the health sector into the political-administrative system.

Health services in Germany are mainly financed by social security contributions. Funding is not part of the overall state budget and therefore difficult to control by governmental politics. Different from the UK health funding has remained rather unimpressed by overall economic cycles. This comes along with a predominance of corporatist structures that can be traced back historically and make the system rather inert and unresponsive to environmental changes. In fact, until the early 1990s no budgetary ceilings did exist in the ambulant sector. The same was true for hospital treatment until 1986 (Oberender & Fleischmann 2002: 62). In terms of performance and cost development this meant that whenever real costs could not be covered by social security contributions, contributions were increased as a consequence. This so-called 'spending-determined fundraising' (*ausgabenorientierte Einnahmepolitik*, Oberender & Fleischmann 2002: 19) dominated German health services provision until the mid-1970s, contributing to a vast expansion of supply and increasing and consolidating expectations on the demand side.[16] Due to financial pressures within the health sector and the overall 1970s economic crisis, the formerly prevailing practice was replaced by the prioritising of fixed rates of contributions (*Beitragssatzstabilität*), thus also aiming at relieving labour costs. Since 1977 cost moderation law (*Kostendämpfungsgesetz*) a fundraising-determined spending (*einnahmeorientierte Ausgabenpolitik*) has been pursued – however not really successfully. Compulsory health insurance contributions have had to be increased repeatedly (Oberender et al. 2002: 7; OECD 2005).

The mode of fundraising does not only represent a quite problematical dynamic in itself, but effects are multiplied by the underlying incentives in the German health sector as provided by the regulatory frameworks. As Oberender and Fleischmann (2002: 86) point out: Ageing societies and medical advances do not necessarily have to entail financial collapse of the health sector. In terms of insatiable demand control has been lost because of the specific incentives shaping the behaviour of both patients and doctors. A systematic de-economisation of demand and supply has permitted the German health sector to expand beyond any rational size. So what are these incentives and their institutional generation about?

The shape of the German health sector is mainly determined by the shape of the compulsory health insurance (*Gesetzliche Krankenversicherung*, GKV), originally introduced in 1883 within Bismarck's package of social security laws and today encompassing almost 90 per cent of the German population. The dominant actors are on the one hand doctors' associations and professional bodies, on the other hand – though slightly less powerful – health insurance associations. They bargain for terms of provision and reimbursement within the legal framework of self-administration.[17] On the demand side, the statutorily insured people acquire entitlements in two areas: compensations for loss of income due to illness and equivalent to formerly paid contributions; and entitlement to medical services depending on the individual medical need and *not* on former contributions.[18] Hence the GKV provides comprehensive coverage independent of specific risks or formerly paid contributions. On the part of the insured person the most rational economic behaviour would be to make as much use as possible of the supply until a degree of individual saturation is achieved (Oberender & Fleischmann 2002: 40). Free rider behaviour and moral hazard effects become active. These phenomena reflect a vacuum of accountability, mediating the delusive impression that admission is *free*. Not being directly confronted with the costs, rationally acting individuals will tend to make extensive use of their entitlements (Oberender & Fleischmann 2002: 44).

On the supply side, the prevailing mode of remuneration permitted doctors in the ambulant sector for decades to influence their income directly by determining the demand. Until the Health Structure Law (*Gesundheitsstrukturgesetz,* GSG) in 1992 no budgetary ceilings existed to cap supply. Services were reimbursed individually and according to the contracts negotiated within the self-administration of the contracted doctors' organisations (*Kassenärztliche Vereinigungen*) on the one hand and central associations of compulsory health insurances on the other side. In other words: an increase in output would also mean an increase in income. This specific mode of reward involves the risk of a

supply-induced demand. Since there was no planning or restriction in terms of maximum numbers of contracting doctors in the ambulant sector, the mode of reimbursement enabled doctors to compensate possible income losses in the face of increasing numbers of doctors just by increasing their output of services. This in combination with the above-mentioned information asymmetry and consolidating expectations on part of the insured people contributed to an overall raise in income – and in health expenditure – over decades.[19] In Germany this setting entailed a significant increase in both numbers of doctors and expenditure. Between 1970 and 2000 the number of doctors per 10,000 inhabitants increased from 16 to 36. A higher number of doctors seems to correlate with a higher take-up of services by patients (Breyer et al. 2005: 332-349; Oberender et al. 2002: 53). Though this correlation does not irrefutable prove a supply-induced demand – growing use of medical services could also be ascribed to a backlog – it seems at least suggesting it.

While this costly dynamics weighed heavily on the German health sector and inevitably on labour costs, governmental politics repeatedly failed to reform the system against the strong objections of corporatist actors.[20] Throughout the evolution of the GKV since 1883 legal tasks were deliberately delegated to medical associations and insurance associations, thus creating and consolidating a 'bilateral monopoly' (Oberender & Fleischmann 2002: 66) beyond government's direct reach. Within this framework the very well-organised interests of doctors succeeded in continuously improving their position. Thus they repeatedly and successfully objected to political attempts of structural reform and cost reduction in the sector. Differently from the UK – and many other countries – there were no deep-reaching reforms of the system of welfare provision after World War II, but instead an advancement of Bismarck's structures (Kaufmann 2003: 281-308). Only in the early 1990s did the surplus of doctors and medical services culminate in such a severe cost explosion that for the first time a drastic political intervention towards the sector succeeded, resulting in deep structural changes (Döhler & Manow 1995b). Budgetary ceilings, a maximum doctors-to-patient ratio and elements of competition were introduced. In a nutshell, in the following years the formerly attractive financial and working conditions for doctors deteriorated gradually.[21] Though doctors' associations still remain the strongest actors in the sector, government's grip has tightened since then.

4 Impacts of sector structures on workforce and migration in the British and the German health sectors

In 2003 29.4 per cent of all NHS-employed doctors had acquired their qualification outside the UK. Since the end of the 1990s overseas recruitment has become a common strategy to meet staff shortages within the NHS. This strategy was established and encouraged by the UK's department of health (DoH); the recruitment procedure itself has mainly been carried out by a vast industry of recruitment agencies. The DoH has provided a series of practical and ethical guidelines since the beginning of the campaign (see e.g. DoH 2003a, 2003b, 2004). Overall, migrant doctors and nurses 'now make a considerable contribution to the running of the UK's healthcare system.' (Kelly et al. 2005: 1). The proportion of doctors from outside the European Economic Area (EEA) has particularly increased. While in 1993 they represented less than a fifth of all NHS-employed doctors, ten years later they accounted for a quarter (24.5 per cent). The share of UK-trained doctors decreased to the same extent the share of non-EEA ones increased, namely 4.9 per cent.

The outstanding recruitment of foreign professionals in the NHS in recent years can mainly be attributed to the hugely increased budget. This was allocated by political decision after public debate increasingly pointed at the NHS as utterly underinvested and New Labour had to put into action their pledges made on the eve of election in 1997. Once a political decision was made in favour of boosting the whole system at large scale and at rather short term, the launching of international recruitment became fairly indispensable: The length of medical training simply does not allow for immediate reactions. The so-called 'NHS Plan' which was published by the DoH in 2000 and outlined challenges and reforms encompassing a ten-year period, announced the additional employment of 7,500 consultants, 2,000 general practitioners (GP), 20,000 nurses and 6,500 other therapists and named international recruitment as an important option (Secretary of State for Health 2000). Even before the NHS Plan and already during Labour's first term the number of work permits and first permissions issued in the health sector increased about 718 per cent from 1,774 in 1995 to 14,516 in 2000. During the same period the number of permissions in all sectors increased about 167 per cent only (1995: 24,161; 2000: 64,575). Hence, work permits granted in the health sector have represented a higher proportion of the total (Den Adel et al. 2004: 209).

The explicit decision – and its effectiveness – to make use of overseas recruitment in order to meet staff shortages can be explained by the organisational structures as described before. In the UK the strong involvement of the DoH as a central actor both in terms of providing

guidelines and also conducting international recruitment on its own were crucial to the success of the campaign. Especially 'in highly centralised health systems like England, employer policy is shaped strongly by the policy guidance and targets that originate in central government' (Bach 2006: 10). Also, the DoH established an institutional infrastructure to facilitate international recruitment and made financial support available (Bach 2006: 15). It can also be assumed that international recruitment has been facilitated by a long-standing tradition of employing foreign medical staff, in particular 'international medical graduates', that is, doctors who spend some years of specialist training in the UK.[22] Beyond it the DoH followed other strategies than the mere reliance on international recruitment. Training capacities of medical schools were increased about 56 per cent between 1997/1998 and 2004/2005 (Boseley 2006: 9; Hoesch 2006a). Furthermore, more responsibilities have been transferred from doctors to nurses. Different from the strong impact of corporatist actors in Germany, structures of decision making in the UK are more homogenous and hierarchic (Wendt 2003: 19). In terms of possible reactions to labour shortages this means that fairly quick decisions are feasible even against possible objections of interest groups – for instance in favour of foreign recruitment or a so-called 'skill mix' (Buchan & Calman 2004) between nurses and physicians. In Germany the dominating actors rather follow strategies of sustainability aiming at maintenance and/or improvement of status, pay and working conditions.

However, at the time of writing a turning point seems to be reached in the British health sector. New immigration rules for international medical graduates were introduced. Previously this group of third-country doctors in specialist training was exempt from work permit requirements. From July 2006 on every doctor from outside the EU who wants to work in the UK needs a work permit. This decision has provoked much protest on the part of non-EU doctors already in the UK. This fundamental change is mainly caused by the expansion of medical training in the UK. A 'bulge' of new 'homegrown' doctors is expected to apply for their first jobs in specialist training in 2006 (Bosely 2006: 9). According to the DoH the relevance of international recruitment of health professionals will decrease in the future.[23] Furthermore, the unprecedented cash flow will not last forever. In fact, from 2009 onward the increase will be replaced by financial stability. At the time of writing there was also a lively debate on the question of 'Where's the money going?' (King's Fund 2006).[24] According to the King's Fund in 2005/2006 more than 50 per cent of the additional funding for English hospital and community health services went into higher pay, in 2006/2007 40 per cent of the additional £ 4.5 billion cash are forecasted to be absorbed by pay rises (King's Fund 2006). Intriguingly

enough, the budget increases of recent years have turned the thitherto unattractive NHS into a sought-after employer for health professionals throughout the world, 'with consultant and nurse pay rates already near the top of the international league table' (King's Fund 2006).

In comparison with the German health sector it becomes quite clear why the NHS Plan in 2000 identified staff shortages as the major challenge the NHS would have to face. The NHS lacked the incentives that produced the German oversupply. Despite all attempts to de-centralise, de-bureaucratise and to replace state planning by market mechanisms since the Thatcher-era, the main feature of funding and steering has always been at work: The funding of the NHS by taxes and as part of the overall-budget thus competing with other policy fields, being limited a priori and by political decision. Only the extraordinary budget increases since 1997/98 have turned the NHS into an employer which today is attractive even for young German doctors. In 2004 2,594 German doctors were employed in the UK (Kopetsch 2005).

In Germany no significant recruitment of foreign health professional took place for decades (Hoesch 2003; Den Adel et al. 2004). Although recruitment of nurses and care assistants did occur at times, based on bilateral agreements with sending countries, there was no recruitment of foreign doctors at all – if anything the German health sector suffered from an oversupply of doctors throughout the 1990s, labelled with the pejorative term 'glut of doctors' (*Ärzteschwemme*). However, in 2001 the problem of a looming shortage of doctors started to be discussed within medical journals (Hoesch 2003: 100). The articles mainly focused on the impact of an ageing medical profession combined with its declining attractiveness to young professionals and the migration of young doctors to both other professions and other countries. Especially in Eastern Germany hospitals found it increasingly difficult to fill vacancies. Also, in some Eastern German regions some surgeries of retiring GPs and consultants had to close for want of successors. In interviews conducted by the author in 2003 and 2004, Eastern German medical associations said that they increasingly had to rely on the recruitment of Eastern European doctors and nurses. In fact, the number of Eastern European doctors in East Germany increased about 272 between 2000 and 2001 (+6.3 per cent), about 405 between 2001 and 2002 (+48.9 per cent) and about 772 until 2003 (+90.6 per cent). The total number of Eastern European doctors in Germany increased from 2,853 in 1998 to 5096 in 2004 (Bundesärztekammer & KBV 2003; Kopetsch 2004; 2005). While in 2002 the topic also emerged in daily newspapers, public attention peaked in autumn 2003 after the decision of the European Court of Justice regarding the recognition of hospital doctors' rest periods as part of their working time. Different associations claimed that an additional 15,000, 27,000 or even 42,000 doctors

would be needed as a consequence. Headlines such as 'Recruitment as far as the Pacific' (*Süddeutsche Zeitung* 2003) emerged in the newspapers. Though this momentary peak of an alleged demand for massive international recruitment is not linked to the more structural shortages of doctors caused by declining numbers of young professionals, public debate became aware for the first time after years of surplus that there was a shortage of doctors. However, figures still appear fairly diminutive if we relate them to the British case. Also, the rather loud communication of comparatively marginal shortages by medical associations seems to be exaggerated. In fact, it is difficult to discern actual shortages in certain geographical areas and looming shortages caused by the ageing medical profession because the overall number of doctors statistically is still growing by 1.6 per cent from 2004 to 2005 and at similar growth rates in previous years (Bundesärztekammer & KBV 2005).

Compared to the British case it is striking how little actors in the sector actually consider the recruitment of foreign doctors as a means to meet shortages. Interviews showed different attitudes towards foreign recruitment depending on the relevance of shortages. While the prevailing aim of interest organisations is to improve working and training conditions as well as payment in order to attract and retain staff rather than recruiting from abroad, attitudes in regions most affected by staff shortages are quite different. In 2002 Eastern German associations campaigned for a 'green card' for hospital doctors, facilitating the recruitment of doctors from non-EU countries, but failed. Yet it seems that meanwhile in Eastern Germany foreign doctors especially from Eastern Europe are attracted much more successfully than in the western parts of the country. The number of foreign doctors in Eastern Germany increased from 2003 to 2004 at 30,8 per cent and further 11 per cent in the following year (Bundesärztekammer & KBV 2005).

Though there are severe shortages mainly in the ambulant sector, there the recruitment of foreign doctors is nearly impossible and access to this segment of the health sector rather blocked by associations. Statistics show that the number of foreign doctors working in hospitals is approximately three times higher than the number of those in the ambulant sector (Bundesärztekammer & KBV 2005). In less affected regions associations rather lobby for sustainable strategies and regard foreign recruitment as a temporary makeshift only.[25] The overall strategy can be characterised as one of self-sufficiency.

In 2004 an average of 4.5 foreign doctors was employed per acute care hospital. Differences between East and West Germany are striking: About one-quarter of East German hospitals declares that they are actively recruiting foreign doctors; in West Germany this is true for 8 per cent only. From 1998 until 2004 the number of foreign doctors in

Germany increased from 10,989 to 18,582. Therewith they represented 6 per cent of the total workforce in 2005.[26] In 2005, 70 per cent of all foreign doctors in Germany originated from Europe, 20.5 per cent from Asia, 4.4 per cent from Africa and 3.5 per cent from America (Bundesärztekammer & KBV 2005; Kopetsch 2005). In nursing, no active overseas recruitment took place in 2004 and 2005 (Deutsches Krankenhausinstitut 2005: 53-56).[27]

The long-time surplus of doctors in the German health sector can mainly be attributed to the high attractiveness which the profession was enjoying for decades both in terms of high income and prestige. Though access to medical training in Germany has always been restricted due to its high costs the output of doctors was yet huge compared to other countries.[28] Physicians density per 1,000 population was 3.4 in 2003 compared to 2.2 in the UK, 2.3 in the US. However, while Germany formerly used to have a higher density than most other countries, in recent years it has been equalled or even passed in this respect by an increasing number of countries (OECD 2005b). In relation to the number of nurses the proportion of doctors has been outstanding in Germany. While in 1997 the ratio doctors to nurses was 100:314 in the UK and 100:290 in the US, in Germany it was 100:174 (Döhler 1997: 16). This can be attributed to two related characteristics of the German health sector: the legal framework stemming from the introduction of the GKV and positioning the doctor at the centre point of any treatment; and the ability of doctors to defend and expand their privileged position within the structures as described before.[29] In this context it is for instance difficult to imagine strategies such as the transfer of responsibilities from doctors to nurses as currently pursued by the British DoH.

While from the doctors' associations' perspective an oversupply initially did not represent a threat to the maintenance of their interests, the situation changed dramatically in the aftermath of the early 1990s' drastic interventions. Due to the introduction of capped budgets and maximum numbers of doctors in the ambulant sector, doctors suddenly had to face the financial consequences of competition.[30] In the mid-1990s doctors' interest organisations predicted the number of 60,000 unemployed doctors in the year 2000 (Schacher 1996: 100). They lobbied successfully for a reduction of access to medical schools. During the winter semester (October to February) of 1991/1992, access to medical schools was reduced by 22 per cent (Schacher 1996: VII). In fact, doctors' associations continued lobbying for a further reduction of altogether between 20 and 50 per cent but finally failed with this aim in 1998 against political actors insisting on the maintenance of capacities in face of growing needs of an ageing society (Schacher 1996; Hoesch 2003: 107-108). The turnaround from surplus to shortages has

been coming along without attracting attention at first. A general loss of attractiveness of the medical profession and lower training capacities – all provoked by the drastic reform – became effective only after a time lag of about ten years, mainly due to the length of medical training.

The comparison of the two health sectors in demographically similar countries shows that the specific intertwining of different funding and organisational structures has produced respectively specific outcomes in terms of the formation of the workforce, the attractiveness of the profession, the supply of young professionals, the capacities of medical training, the emergence of and reaction to labour shortages and the specific strategies pursued by the relevant actors in this latter respect. Decision-making processes in both countries are shaped by the rationalities of the most relevant actors. In Germany, the bilateral monopoly prevailing in the ambulant sector produces a pattern of behaviour on part of the monopolists – the self-administration of the contracted doctors' organisations *(Kassenärztiche Vereinigungen)* representing contracting doctors and the main associations representing compulsory health insurances – that obviously follows their interests by avoiding intra-organisational conflicts and trying to increase members' income. It is this rationale – being active beyond competition – that has been paralysing the German health system and hampering innovation (Oberender & Fleischmann 2002: 66). In the UK the state used to be the main and crucial actor, responsible for planning, providing and funding medical services at the same time. Underlying rationales can be described as two-fold and conflicting: On the one hand keeping costs low in order to relieve budgets and avoid unpopular and politically costly increases in taxes; on the other hand responding to voters' preferences by promising better health services. Despite all meanwhile introduced intermediate levels of steering and mechanisms of competition the two rationales still shape decisions. Phases of underinvestment and labour shortages can be explained by the first, phases of expansion and large-scale recruitment as the one set up by New Labour follow the logic of the latter.

5 Concluding remarks: interdependencies between sector structures, workforce and patterns of migration

The starting point of this article was the theoretical challenge caused by existent empirical data on the recruitment of foreign professionals in the British and the German health sector. Indeed approaches arguing that ageing societies are creating a growing demand for medical services and – since it cannot always sufficiently be met by their own

workforces – also a demand for foreign professionals are certainly not wrong. The overall trend they indicate is right and their importance will probably gain in the future. Yet they cannot explain the large variety of recruitment strategies in countries that in terms of their similar demographic features should – according to this logic of argumentation – show a similar pattern regarding overseas recruitment. However, the actual quantity and quality of a presumably increasing demand become much clearer if we do not only rely on *external* features impacting on almost all health sectors in OECD countries, but specify and analyse the *internal* structures and incentives of health sectors. Following the main structures of health services provision in Germany and the UK, that is, the GKV and the NHS, it becomes obvious that the specific demands and preferred strategies can better be explained by the endogenous features of the sector such as funding and organisation, institutional evolution and incentives channelling the diverse actors' behaviour. This article focused on the interdependencies between sector structures and demand for labour migration only for the case of doctors. This narrow scope was necessary to show the complex mechanisms at work for this single professional group. Since doctors' interests traditionally are better organised than those of all other health workers it can be assumed that in general – despite national differences in terms of their actual assertiveness within the policymaking process – they are less prone to shortages and foreign recruitment than nurses.

The case of care workers taking care of the elderly seems, however, to be quite different. Most countries reacted late to the demand of specific modes of care provision for the frail. Though meanwhile most countries have introduced schemes of care delivery, these are in general less comprehensive than health care provision. Against the background of cost explosion in nearly all health sectors governments aimed at preventing a similar dynamic in the more recently introduced care schemes. Therefore budgets are usually capped, not covering all risks and leaving the beneficiary with co-payments. This promotes the emergence of an informal labour market – often composed of irregular migrants.[31] Again the specific modes of funding and regulation impact on the development of specific demands for labour.

Also, the article totally neglected migration from public to private sector and vice versa, both by national and foreign professionals. First interviews with experts in the field indicated that here another complex dimension comes into play, requiring thorough differentiations and suggesting opposed directions of migration for highly and low-skilled professions. Yet the specific mechanisms at work in the distinct segments of the larger health and care sector as well as their mutual interdependencies require further study.

Notes

1 Initial empirical data were gathered and interpreted within the joint research project *The Political Economy of Migration in an Integrating Europe* (PEMINT) from 2001 until 2004; see Bommes et al. (2004).
2 For more detailed data on recruitment of foreign health professionals in five EU countries (Germany, Italy, the Netherlands, Portugal and the UK) and Switzerland, see Den Adel et al. (2004); for the British case see Kelly et al. (2005).
3 From the perspective of health economics, effects of ageing societies on the demand for health services are discussed controversially. Advocates of the morbidity compression thesis argue that demand will not necessarily increase since general life conditions have improved and old age will be reached in a healthier way. On the other hand the medicalisation thesis suggests that the reduction of mortality comes along with an increase in morbidity during the last years of life and creates a demand for medical treatment (Oberender 2002: 117-118).
4 A comparative study on tax-financed health services vs. contribution-financed compulsory health insurance systems gives some evidence that suggests a close interrelation between types of health systems and the quantitative and qualitative development of professions and their respective organisations, see Wendt (2003).
5 For criticism on this one-sided perspective see Bach (2006). Vujicic et al. (2004: 12-13) disprove the assumed correlation between wage differentials and the migration decision of doctors and nurses in favour of one or another destination country. However, they admit that their analysis was restricted to migration from developing countries with huge differences between health care wages at home and abroad – between three and fifteen times higher wages in destination countries.
6 'A curious feature of much migration analysis is that it is relatively disinterested in the policies of the state, or when state policy is considered it is often construed narrowly in terms of immigration policy.' (Bach 2006: 10). In his work Bach (2006) stresses the need to have a closer look at other explicit state actors and therefore to examine interrelations between industrial relations, migration policy and patterns of nurse mobility.
7 Exceptions with public expenditure on health being less than 50 per cent are the US (44.4 per cent), Korea (49.4 per cent) and Mexico (46.4 per cent) in 2003 (see OECD 2005a).
8 For a discussion of the specific qualities of health as an economic good see e.g. Breyer et al. (2005), Oberender et al. (2002: 9-20).
9 Wendt (2003: 110) shows this for the German health sector.
10 For details on asymmetries between different groups of health professionals see the very intriguing study by Döhler (1997).
11 In fact, the scope of self-assertion of each respective minister seems to make a difference. For examples see Ham (2004: 80, 125-128).
12 For details see Ham (2004).
13 Wendt (2003: 125-126) points out that during the first years of establishment of the NHS it was a major concern that doctors' professional associations not be directly employed and salaried by the state in order to maintain their independence. While GPs succeeded in this respect Wendt concludes that they paid a high price by accepting a reduced role in payment negotiations.
14 Until then 'the independent sector has been a cottage industry in Britain. Its small scale reflected the dominance of the NHS [...]' (*The Economist* 2004: 39).
15 Interestingly enough the implementation of a contract-based system proved to be more expensive to administer than the previous integrated system. It was estimated that the reforms caused an additional expenditure of £ 1.5 billion on management,

mainly caused by the need to employ extra staff to negotiate contracts and to supply information to purchasers and providers (Ham 2004: 47).

16 In the 1970s contributions sometimes increased by two-digit percentage rates. In 1971 for instance the growth rate of contributions was 24 per cent (Oberender & Fleischmann 2002: 20).

17 However, the vast majority of health professionals, i.e. nurses and care assistants, never have enjoyed powerful associations. The German health sector is therefore characterised by asymmetrical power among corporatist actors. For details see Den Adel et al. (2004: 214).

18 At the outset of social insurance in the late nineteenth century the compensation for income losses accounted for more than 50 per cent of the health insurance's total expenditure. Today only 6 per cent are spent on compensations due to the transfer of responsibility to employers in 1970. The remaining 94 per cent are spent for benefits to which each insured person is entitled to the same extent (Breyer et al. 2005: 195-196).

19 It has to be stressed that doctors cannot be reproached for this strategy: they are also entrepreneurs seeking profitability. Their behaviour is strongly channelled by the mode of reimbursement (Breyer et al. 2005: 332).

20 For a detailed discussion of these failures and their structural background see Döhler & Manow (1995a, 1995b).

21 For more details on this process and its implications in terms of workforce see Hoesch (2003). Especially employed hospital doctors were affected by these deteriorations. As a consequence the number of young professionals entering hospitals for specialist training decreased gradually. In the long term this development has also affected the ambulant sector since specialist training in hospital precedes any licence to practice as a self-employed consultant.

22 However, some difficulties occurred with respect to the recruitment of consultants who had obtained their qualification outside the UK. This was because some of the medical directors in NHS hospitals were sceptic about the quality of these non-UK trained specialists; information according to an interview with DoH officials, May 2006.

23 Interview information, May 2006; for details see Hoesch (2006b).

24 Title of a briefing published by the King's Fund, a major think tank on health policy; see www.kingsfund.org.uk.

25 In fact, since training conditions recently have been improved, abolishing the unpopular so-called *Arzt im Praktikum* (AiP, a compulsory year of practice after exam and often experienced as exploitation), medical associations expect to attract more young professionals again. However, due to the length of training effects will be visible in about eight to nine years only.

26 The total number of active doctors in 2005 was 307,600, the total of all registered doctors was 400,600 (Bundesärztekammer & KBV 2005).

27 In interviews care associations stated that labour shortages of nurses and, therewith connected overseas recruitment, often are linked to economic cycles. In periods of boom labour shortages of nurses are likely because young professionals tend to seek employment in presumably more attractive industries. Yet in times of downturn the nursing and care professions appears more attractive for its alleged stability.

28 Since 1973 access to medical training is regulated by a central agency before applicants were selected by the universities themselves.

29 For details on the historical emergence of professions, their respective processes of differentiation and their impact on today's performance of interest organisations and professional bodies see Döhler (1997).

30 In some fields turnover dropped about 17 per cent in the following two years (Bandelow 1998). At the same time hospitals were forced to work more cost effectively. The pressure on hospital doctors in particular increased. Young doctors were especially affected by this development (den Adel et al. 2004: 215).

31 For details on this interrelation in the Italian welfare state see Sciortino (2003), for Germany see Hoesch (2004), den Adel et al. (2004: 213-214), Krampe (2003) and Roth (2000); more general on the ways in which different types of commodified care schemes impact on the labour market see Ungerson (2003); for a comparison of different schemes in different types of European welfare state see Schölkopf (1999).

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Workers' Remittances and International Risk Sharing[1]

Metodij Hadzi-Vaskov

1 Introduction

The process of international financial integration, which accelerated in the past two decades, can potentially bring numerous benefits to the world economy. One of the central benefits it offers to the residents of different countries is the possibility to diversify their macroeconomic risks internationally. Therefore, through the process of cross-border trade in assets, these countries can relax the link between domestic output growth and domestic consumption (income) growth up to the point when the latter will depend exclusively on the *world* output growth.[2] This process, through which country-specific risks are diversified away across national borders, is known as international risk sharing. Moreover, the finance literature usually associates it with the underlying trade in financial assets. Therefore, investment in an internationally diversified portfolio is identified as the major channel through which the process of international risk sharing takes place. Similarly, the deviation from the hypothesis of perfect or complete risk sharing is associated with the tendency by investors to over-invest in domestic assets and thereby forego many diversification opportunities available through investment in foreign assets. This latter phenomenon is also known in the finance literature as home equity (or bond) bias. Since the bias in investment strategies seems to be the most obvious reason for the deviation from complete risk sharing, many empirical studies investigate the relationship between the two.

Though the association between the two phenomena is very clear for the group of advanced economies, it might not be as important for the developing world. Therefore, this paper concentrates on an alternative channel through which one country can smooth consumption and diversify its idiosyncratic risks internationally. In particular, the focus in this empirical study is on workers' remittance flows to developing countries. The main objective is to find out what role workers' remittances play in international risk sharing. Do countries that receive above average levels of remittance inflows achieve a significantly higher level of international risk sharing?

The rest of this paper is organised as follows. Section two presents a brief literature review on some important studies on international risk sharing and workers' remittances, respectively. It is followed by section three that deals with data issues, and section four that puts forward the empirical strategy. The estimation results are presented in section five. Finally, section six gives some concluding remarks and suggestions for further research.

2 Literature review

2.1 International risk sharing

International portfolio diversification and international risk sharing are closely interrelated, but by no means equivalent, phenomena. The deviations from an internationally diversified portfolio are studied in the finance literature and are known as the 'home (equity) bias', while the departures from complete consumption and income smoothing are known in international macroeconomics literature as the 'international risk-sharing puzzle'. Though these concepts are interrelated, the former does not always imply the latter (nor vice versa). More concretely, Lewis (1999) argues that home bias may not necessarily lead to lower international risk sharing if most of consumption and income smoothing is done through international borrowing and lending rather than portfolio holdings. Conversely, Baxter and Jermann (1997) show that even complete international diversification of portfolio holdings does not directly imply smooth consumption and income streams. First, total equity holdings might represent a very small portion of global GDP, and second, they might not provide adequate hedging of returns to human capital.

Since the theoretical literature does not provide an unambiguous answer about the relationship between equity home bias and international risk sharing, Sorensen et al. (2005) test it empirically using data for the OECD countries during the 1990s. The central issue that they investigate is whether countries with lower, or decreasing home bias during the period considered, have higher or increasing levels of international risk sharing as well. They find that lower home equity bias indeed leads to more risk sharing in consumption and income. This effect has an economic meaning as well: a one percentage point decrease in home bias leads to almost half of a percentage point increase in risk sharing.

In an influential paper, Lewis (1999) undertakes a joint investigation of the equity home bias as referred to in the finance literature with the consumption home bias as discussed in the international macroeconomics literature. Although these two phenomena seem to be influ-

enced by similar factors, they cannot be considered equivalent. Furthermore, she invokes the fallacy in the 'casual intuition' that home bias in equities and risk sharing in consumption are necessarily linked with each other. First, equity home bias is not a sufficient condition for consumption home bias. In particular, as long as countries can borrow and lend with each other, consumption growth rates can be perfectly correlated even if domestic residents do not hold foreign equity at all. Second, equity home bias is not a necessary condition for consumption home bias. Because parts of total domestic output cannot be (are not) securitised and traded on the stock markets, perfect international portfolio diversification does not necessarily imply perfect international risk sharing in consumption.

2.2 *Workers' remittances*

Workers' remittances to developing countries have been steadily increasing in the past decades (see figure 1). In the mid-1990s they overtook the total of private portfolio flows, thereby becoming the second most important source of foreign exchange for the developing countries (second only to FDI). Moreover, their importance as percentage of total GDP displays similar picture (see figure 2). Unambiguously, workers' remittances have become major source of financing for many households in the developing world. Synchronously with their increasing trend, they began to capture the attention of an ever-increasing number of researchers and (international) organisations around the world.

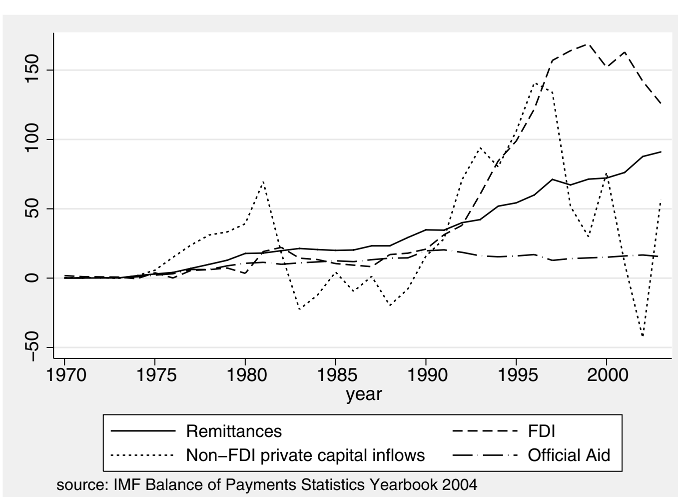


Figure 1 *Capital flows to developing countries (billions of US dollars)*

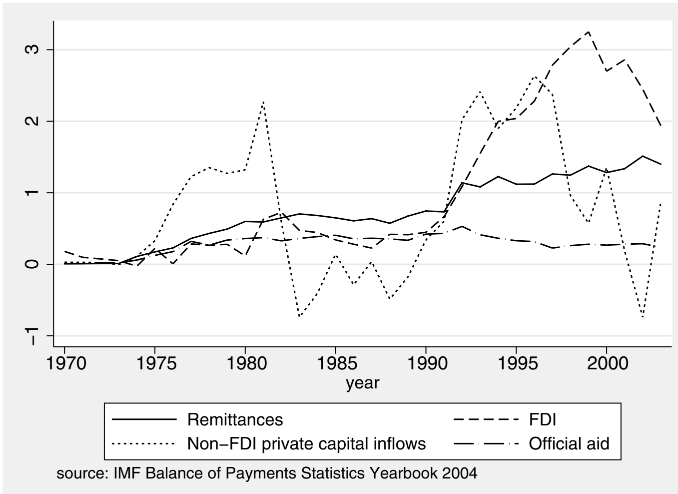


Figure 2 *Capital flows to developing countries (per cent of GDP)*

One of the most recent contributions in this area is given in chapter II of the *World Economic Outlook* prepared by the International Monetary Fund (IMF 2005). This analysis is threefold. First, IMF presents some stylised facts, demonstrating that workers' remittances constitute the second-largest source of foreign capital for the developing world as a whole.[3] Second, emphasis is put on the role of remittances in economic development. In this sense, they are shown to be associated with more investment in infrastructure and faster human capital accumulation. Finally, the report points out several characteristics, which make remittances especially important financing flows to developing countries. More precisely, workers' remittances are the most stable source of external finance, do not display high levels of pro-cyclicality (see figure 3), and jump sharply after an economic (or financial) crisis hits the home recipient country.[4] In fact, these last three characteristics suggest that remittances might contribute to consumption smoothing, and improve the risk sharing capacity of the recipient economy.

The important role that remittances play in relaxing the external constraints of many developing countries is also acknowledged in Ratha (2003), published as chapter VII of the Global Development Finance by the World Bank. Besides documenting stability as a source of external funding, Ratha (2003) distinguishes between remittances intended for consumption and remittances intended for investment.[5] Moreover, he argues that the former group should be less volatile than the latter. Additionally, he makes a distinction between different country groups. In particular, he demonstrates that poor countries with lower-than-

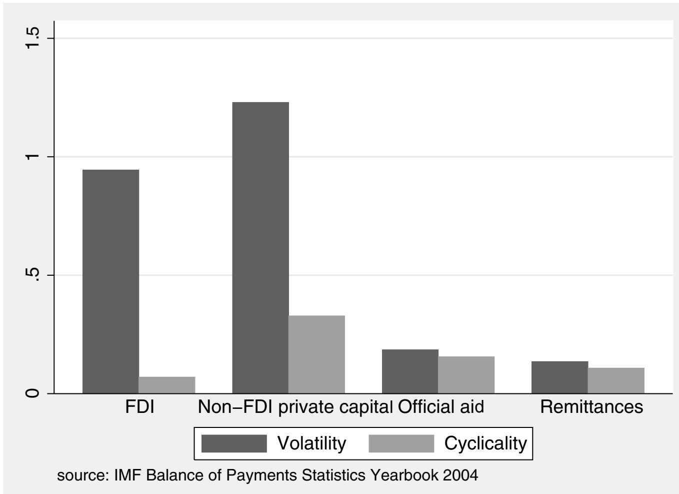


Figure 3 *Volatility and cyclicality of capital flows*

median and middle income countries with higher-than-median growth rates receive relatively more remittances.[6]

Focusing on the macroeconomic nature of remittances, Buch and Kuckulenz (2004) find that they are mostly driven by market forces, though social and demographic considerations play an increasingly important role as well. Moreover, they find that workers' remittances are positively correlated with official capital flows (which in turn are positively correlated with private capital flows), but uncorrelated with private capital flows. Finally, in a recent study Bugamelli and Paterno (2005) demonstrate that higher levels of remittances (as percentage of GDP) lead to lower probability of current account crisis.

3 Data

The empirical analysis is based on an unbalanced panel dataset that includes observations on 153 countries during the period 1960 to 2000.[7] Due to the considerable degree of heterogeneity in terms of countries included, and the availability of data, the panel is strongly unbalanced. Thus, the number of yearly observations per country varies between 2 and 41 in the largest dataset included in the calculations, and between 2 and 11 yearly observations in the dataset that only includes developing countries in the period 1990 to 2000. Moreover, various subsamples of developing countries are used in some of the estimations. Hence, the entire sample of 117 developing countries is divided into the following subsamples: more financially integrated countries (MFIs)

(with 20 countries), less financially integrated countries (LFIs) (with 83 countries), and transition economies (with 14 countries).[8]

There are two types of data used in the construction of the panel dataset: macroeconomic data and data on workers' remittances. In turn, they come from two different sources: the macroeconomic series are taken from the *Penn World Table*, version 6.1 and the data on remittances comes from the *IMF Balance of Payments Statistics Yearbook*.[9] The first group refers to the following series: real consumption per capita and real GDP per capita, both adjusted for PPP. For the purposes of this study, I calculate the yearly growth rates of these two series for each country available and for the world as a whole. The growth rates for global GDP and global consumption are calculated as the unweighed average of the real GDP per capita growth rates for the set of industrial countries in the corresponding year.[10]

In general, data on remittances is inaccurate and unreliable. Moreover, it is not always comparable across countries because different sources (national agencies, central banks, statistical offices, international bodies, etc.) use different methodologies and variable definitions in their compilations.[11] In this respect, the *Balance of Payments Statistics Yearbook* by the IMF, used in this study, is generally acknowledged as the most complete and reliable database on workers' remittances available.[12] Since there is not an unambiguous or universal definition of workers' remittances, various variables are used in the empirical literature. Generally, the *Balance of Payments Statistics Yearbook* reports three components that can be used for this purpose: compensation of employees, workers remittances, and migrants' transfers.[13] The first two categories are registered with the current account, while the last category belongs to the capital account of the balance of payments.[14] More precisely, 'compensation of employees' refers to the wages, salaries, and other benefits earned by individuals for work that they performed in economies in which they are not residents, while 'workers' remittances' cover current transfers by migrants who work and are considered residents of new economies (other than the transfers' final destination). Therefore, the slight distinction between these two components is based on the time period that the migrant (remitter) is expected to stay in the new economy.[15] Finally, 'migrants' transfers' refer to the flows of (financial) assets that are related to people who migrate from one economy to another.

In this study remittances are defined as the sum of all three components. This choice can be justified on several grounds. First, economic theory does not give clear guidelines about the choice of the appropriate series. Second, the distinctions among the three components are small (and one may argue arbitrary), and therefore the probability for misclassification of certain transfers is not negligible. Finally, though

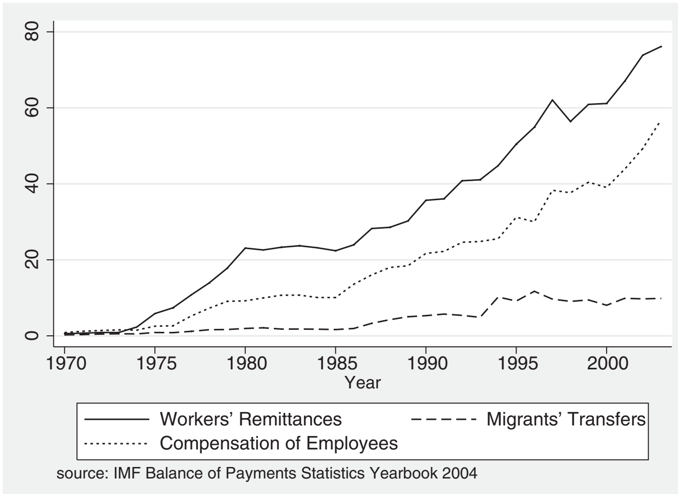


Figure 4 *Remittances components (billions of US dollars)*

large differences exist among the three components, figure 4 shows that there was an increasing trend in all of them during the past four decades.

An important point to note is that only gross data on remittances inflows has been used in the construction of workers' remittances indicators. There are at least three reasons why gross and not net (inflows minus outflows) might be more appropriate for this analysis. First, workers' remittances constitute an especially important source of external financing for the developing world, where countries are most often only recipients of these funds. Second, the data on remittance outflows is even scarcer, of worse quality, and less reliable than data on remittance inflows. Third, most countries report data either on inflows or on outflows, but not on both of them. Therefore, it would be very difficult to calculate precise and meaningful indicators for net remittance flows. One of the major disadvantages of this strategy is that the empirical analysis of remittance flows is limited to the set of developing countries.

4 Empirical specifications

There are two main issues that I investigate in this study. First, I present some measures of the degree of international risk sharing in consumption for different groups of countries during the period 1960-2000. Second, I attempt to shed light on the major question of this paper: what is the role of workers' remittances in international risk shar-

ing? In order to measure the degree of risk sharing in consumption I estimate the following type of panel regression equations:[16]

$$(1) \quad (\Delta \log C_{it} - \Delta \log C_t) = \alpha + \beta(\Delta \log GDP_{it} - \Delta \log GDP_t) + \varepsilon_{it}$$

In this equation $\Delta \log C_{it}$ is the year-on-year growth rate of real consumption per capita for country i in year t, $\Delta \log C_t$ is the growth rate for *world* real consumption per capita, $\Delta \log GDP_{it}$ and $\Delta \log GDP_t$ are the corresponding terms for GDP, β measures the average co-movement of the countries' idiosyncratic consumption growth with their idiosyncratic GDP growth during the entire time period, and epsilon is the error term.

The slope coefficient β deserves special attention because it measures the (average) deviation from perfect risk sharing in consumption. In particular, the perfect international risk sharing in consumption hypothesis states that if the countries manage to share completely the idiosyncratic risks that they face, then this coefficient should not be significantly different from zero. In a corresponding manner, one may argue that 100(1-β) per cent measures the degree of international risk sharing in percentage terms.

A similar type of regressions is estimated to measure the effect of workers' remittances in international risk sharing. In particular, I estimate the following panel regressions:

$$(2) \quad (\Delta \log C_{it} - \Delta \log C_t) = \alpha + \psi(\Delta \log GDP_{it} - \Delta \log GDP_t) + \varepsilon_{it}$$

where the slope coefficient is defined as follows:

$$(3) \quad \psi = \psi_0 + \psi_1(t - \tilde{t}) + \psi_2 \log(R_{it}/\tilde{R}_t)$$

$\tilde{t}$ is the middle year of the sample period (i.e. 1995 when the sample refers to the period 1990-2000), R_{it} is the ratio between total remittances received and GDP for country i in year t and R_t is the average ratio between total remittances received and GDP in year t. Therefore, t-t can be thought of as a time trend, which captures the trend decline in consumption smoothing not directly caused by the increase in workers' remittances. Finally, the term $(R_{it}/\tilde{R}_t)$ measures the relative importance of the ratio total remittances received to GDP for certain country i in year t compared to its average value across countries in year t.

Defined in this way, each of the coefficients ψ_0, ψ_1 and ψ_2 has very precise meaning. In particular, 1 - ψ_0 measures the degree of international consumption risk sharing achieved by country with the *average* ratio between remittances received and GDP during the middle year t. By similar argument, the coefficient -ψ_1 gives the average year-on-year increase in consumption risk sharing. If it is true that country-specific risks became better diversified internationally through time, then one will expect a negative sign for ψ_1. Furthermore, -ψ_2 captures the impact

of a higher than average ratio between total remittances received and GDP for a certain country on its ability to smooth idiosyncratic output shocks. Therefore, a significantly negative value for ψ_2 implies better risk sharing for countries that receive above-average ratio of workers' remittances relative to GDP.

Finally, the entire coefficient $1 - \psi = 1 - \psi_0 - \psi_1 (t - \tilde{t}) - \psi_2 \log (R_{it}/\tilde{R}_t)$ measures the amount of consumption risk sharing achieved by country i in year t.

5 Results

The estimation results for the panel specification in equation one are given in table 1. Similar type of equations is estimated for the whole sample and the subsamples of developing and industrial countries during the period 1960 to 2000. Moreover, each equation has been estimated with fixed effects (assuming non-zero correlation between the regressors and the country-specific part of the error term) and with random effects panel data estimation techniques. As can be seen in table 1, the results obtained using the two alternative estimation techniques do not differ a lot. Moreover, the Hausman test suggests that the difference between coefficients is not significantly different from zero, thereby suggesting that both estimation techniques yield valid results.[17]

Table 1 displays several important findings. First, in line with many previous studies the hypothesis of perfect risk sharing in consumption is rejected for each (sub)sample of countries. Moreover, the results imply large differences across the two groups of countries. In particular, the group of developing countries achieves *relatively* less international risk sharing compared to the group of advanced economies. In fact, about 17.3 per cent (1-0.827) of country-specific (output-specific) risks for the group of developing countries is shared internationally. Conversely, idiosyncratic consumption changes are much less dependent on idiosyncratic GDP changes in the group of advances economies. If one performs similar calculations as done for the group of developing countries, the percentage of risks shared internationally is 40 per cent 100(1-0.60) per cent in the group of advanced countries.

Tables 2, 3 and 4 display estimation results for the non-linear specification given by equations 2 and 3. This non-linear specification is of central importance in this study as it shows the effect of workers' remittances on international consumption smoothing.

Table 2 presents results for the entire sample of developing countries during the period 1990-2000.[18] Three findings are worth mentioning. First, the slope coefficient of the idiosyncratic output growth term declines in each specification, indicating that the *average* international

Table 1 *International risk sharing 1960 to 2000*

	Developing RE	Countries FE	Industrial RE	Countries FE
Constant	0.0013	0.0013	0.00067	0.00068
	(0.98)	(0.97)	(0.55)	(0.55)
Output	0.827	0.826	0.604	0.587
	(63.16)**	(61.30)**	(14.87)**	(13.93)**
Observations	3898	3898	875	875
Countries	121	121	22	22
R-squared		0.51		0.21

Absolute value of z statistics in parentheses; * significant at 5 per cent; ** significant at 1 per cent

risk sharing increases compared to the baseline specification (table 1) and now lies in the range 21.7-26.2 per cent.[19] However, it is still significantly different from zero at any conventional significance level. Moreover, the time trend has a significantly negative slope coefficient, meaning that risk sharing improved gradually though time. The final and most important finding refers to the 'remittances interaction term' which has negative value significant at the 5 per cent significance level. This suggests that countries that receive more than average amount of workers' remittances per year (relative to their GDP) achieve a significantly higher degree of international risk sharing in consumption.[20]

The analysis goes one step further in table 3 and table 4. The entire set of developing countries is divided into three subgroups: more financially integrated (MFIs), less financially integrated (LFIs), and transition economies. The results are broadly similar to those for the entire set of developing countries. However, there are three changes that deserve particular attention. First, the time trend is not significant anymore for the MFIs and the transition economies (though it stays significantly negative for the LFIs). Second, although its sign stays negative, the remittances interaction term is not significantly different from zero for the MFIs and the LFIs. On the contrary, the impact of remittances on international risk sharing seems to strengthen for the group of transition economies as its slope coefficient becomes even more significantly negative.[21] Finally, the slope coefficient ψ_o in front of the idiosyncratic output growth rate turns insignificant for the group of transition economies in the fixed-effects specification. This means that the null hypothesis of full international risk sharing for the group of transition economies, once the time trend and the effect of workers' remittances is accounted for, cannot be rejected at conventional significance levels.

Table 2 *International risk sharing in developing countries 1990 to 2000*

	RE	FE	RE	FE	RE	FE
Constant	-0.001	-0.001	-0.003	-0.002	-0.003	-0.002
	(0.23)	(0.34)	(1.00)	(0.75)	(1.01)	(0.77)
Output	0.773	0.754	0.753	0.742	0.75	0.738
	(29.27)**	(26.79)**	(21.89)**	(20.52)**	(21.20)**	(19.88)**
Time-trend			-0.032	-0.025	-0.032	-0.025
			(3.13)**	(2.29)*	(3.09)**	(2.25)**
Remittances(m)					-0.025	-0.025
					(2.11)*	(1.99)*
Remittances(t)			-0.024	-0.024		
			(2.10)*	(1.97)*		
Observations	1218	1218	997	997	997	997
Countries	121	121	117	117	117	117
R-squared		0.4		0.42		0.42

Absolute value of z statistics in parentheses; * significant at 5 per cent; ** significant at 1 per cent

Finally, Table 4 reports estimation results from a specification similar to the one in Table 3, the sole difference being that an alternative definition for the remittances indicator is used.[22] As can be seen from

Table 3 *Risk sharing in MFIs, LFIs, and Transition Economies 1990 to 2000*

	MFI		LFI		Transition	Economies
	RE	FE	RE	FE	RE	FE
Constant	-0.001	-0.001	0.004	0.002	0.012	0.011
	(0.29)	(0.47)	(0.80)	(0.52)	(1.26)	(1.12)
Output	0.85	0.856	0.78	0.767	0.286	0.201
	(21.57)**	(21.48)**	(17.50)**	(16.39)**	(2.17)*	(1.37)
Time-trend	0.015	0.013	-0.046	-0.038	0.076	0.1
	(1.08)	(0.91)	(3.84)**	(2.98)**	(1.49)	(1.78)
Remittances(m)	-0.007	-0.003	-0.015	-0.016	-0.131	-0.15
	(0.36)	(0.16)	(1.09)	(1.05)	(2.99)**	(3.20)**
Observations	185	185	710	710	102	102
Countries	20	20	83	83	14	14
R-squared		0.75		0.43		0.32

Absolute value of z statistics in parentheses; * significant at 5 per cent; ** significant at 1 per cent

Table 4 *Risk sharing in developing countries 1990 to 2000*

	MFI		LFI		Transition	Economies
	RE	FE	RE	FE	RE	FE
Constant	-0.001 (0.30)	-0.001 (0.47)	0.004 (0.80)	0.002 (0.51)	0.011 (1.22)	0.01 (1.08)
Output	0.851 (21.53)**	0.857 (21.36)**	0.782 (18.07)**	0.77 (16.92)**	0.306 (2.39)*	0.224 (1.56)
Time-trend	0.015 (1.07)	0.013 (0.91)	-0.046 (3.86)**	-0.038 (3.00)**	0.074 (1.44)	0.097 (1.73)
Remittances(t)	-0.007 (0.38)	-0.004 (0.18)	-0.015 (1.07)	-0.016 (1.04)	-0.13 (2.98)**	-0.15 (3.19)**
Observations	185	185	710	710	102	102
Countries	20	20	83	83	14	14
R-squared		0.75		0.43		0.32

Absolute value of z statistics in parentheses; * significant at 5 per cent; ** significant at 1 per cent

the table, the results stay almost literally the same, meaning that the major conclusions with respect to the impact of workers' remittances are not sensitive to the specific definition of the remittances indicator.

6 Conclusion

During the past four decades, idiosyncratic consumption growth rates have been very strongly correlated with idiosyncratic output growth rates, thereby suggesting that a very small part of macroeconomic risks is actually shared internationally. In this sense, the results presented in this paper are in line with most other empirical studies on international risk sharing that use macroeconomics data. Various explanations have been proposed for this apparent puzzle in international macroeconomics. In this respect, the reduction in equity home bias has been identified as a crucial channel through which risk sharing across countries can be improved. This paper offered an alternative risk-sharing channel, workers' remittances sent to their home countries. Moreover, the empirical evidence gave strong support to this alternative channel. Indeed, developing countries with above average remittance receipts during the last decade of the previous century display significantly smaller deviation from the perfect risk-sharing hypothesis. Furthermore, the analysis showed that this effect is not equal for the three groups of developing countries. Clearly, transition economies achieved

a reasonably high level of consumption risk sharing, to a large extent thanks to the 'smoothing effect' of workers' remittances they received.

Apart from presenting empirical evidence on an alternative risk-sharing channel, this study identified several questions that deserve further research. First, it is important to find out why the impact of workers' remittances is so different across the three groups of developing countries. In turn, identifying the underlying reasons might give further insight into the broad institutional environment through which workers' remittances arrive to their final beneficiaries. Finally, the increasing trend in remittance inflows might be accompanied by additional private (and/or official) capital flows to developing countries. Thereby, remittance inflows might fundamentally change the entire framework through which these countries diversify their macroeconomic risks.

Notes

1 JEL classification: F22, F36, F41. Keywords: International Risk Sharing, Workers' Remittances, Consumption Smoothing.
2 Since this world output growth is the same for all countries, it implies that in the end all countries' consumption growth rates will be equalised.
3 Moreover, for many countries (especially in the Caribbean region) workers' remittances are the largest source of foreign capital and foreign exchange, representing even more than 5 per cent of GDP for some countries.
4 Examples of economic crises followed by sharp increases in workers' remittance flows cited by the IMF include: Indonesia 1997, Ecuador 1999, and Argentina 2001.
5 This distinction is mainly based on the nature of the final recipients, the flows going to household being classified as remittances intended for consumption.
6 The basic conclusion drawn from this observation is that remittances mainly serve for consumption purposes in the former and for investment purposes in the latter group.
7 Due to the large number of missing observations for fourteen countries, the final dataset is restricted to 139 countries in total.
8 The classification of developing countries into the first two groups MFIs and LFIs is done by the IMF. The group of transition economies includes the former centrally-planned economies with the exception of the countries that belong to the Commonwealth of Independent States.
9 I would like to thank Nicola Spatafora and Angela Espiritu from the IMF for providing me with the most recent dataset on workers' remittances.
10 The estimation results for different subsamples do not change significantly when *world* growth rates are calculated as unweighed averages of the growth rates for that particular subsample only.
11 For more on the difficulties in cross-country comparisons for remittances data and the efforts recently made to improve its quality see de Luna Martinez (2005).
12 See Reinke and Patterson (2005) and the *IMF Balance of Payments Manual* (5th ed.) for more details on definitions and data-related issues.
13 Some countries, it also includes entries registered under 'current private transfers' that refer specifically to remittances.
14 The definitions given here follow Reinke and Patterson (2005).

15 By convention, migrants that stayed or are expected to stay in the new economy for more than one year are considered residents, and therefore, their transfers are included in the latter category. If the workers are expected to stay less then one year, then their transfers are treated as compensation of employees.
16 The empirical specifications used in this study closely follow Sorensen et al. (2005).
17 The columns named RE and FE in the tables refer to random-effects and fixed-effects estimation results, respectively.
18 The analysis is limited to this time-period because the data on remittances for the period 1960 to 1990 is very scarce and available for a small number of countries only.
19 The *average* refers to the country with an average ratio remittances received to GDP during the *middle* year, i.e., 1995 in this case.
20 The middle two columns in table 2 use an alternative definition for the remittances interaction term. Instead of average remittances received relative to average GDP, they use total remittances to total GDP. The results stay literally the same, however.
21 The null hypothesis that this slope coefficient is not significantly different from zero can be rejected even at 1 per cent significance level now. The corresponding significance level for the entire set of developing countries was 5 per cent.
22 As mentioned before, this indicator is defined as total remittances received relative to total GDP, instead of average remittances to average GDP as reported in table 3. The main purpose is to see how *sensitive* the main results are to the exact definition of the remittances indicator.

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Skills and Remittances

The Case of Afghan, Egyptian and Serbian Immigrants in Germany[1]

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1 Introduction

The issue of migration and development has become highly relevant in recent years on the global policy agenda. Countries and international organisations increasingly perceive migration as a phenomenon that can positively impact development in both migrant receiving and sending countries, provided that appropriate policies are in place. One of the central issues within the context of the migration and development nexus is the role of migrants' remittances as a source of capital and possible engine for economic growth in developing countries.

Migrants' remittances gained in importance on the international agenda[2] because of the dramatic rise in international flows. Between 2001 and 2005 international migrant remittances' flows increased by 58 per cent, to reach about US$ 232 billion (World Bank 2005a). With about US$ 167 billion, developing countries received the biggest share, while industrial countries in North America and Western Europe are the major sources. However, there is still limited knowledge about the way in which these international transfers affect economic development in the home countries of migrants.

1.1 *Literature review*

Empirical evidence illustrates that the amounts remitted depend on the migrants' characteristics. Glytsos (1997) highlighted the importance of the immigrants' return intention in determining remittance behaviour by proving that temporary migrants remit more than permanent ones. Semyonov and Gorodzeisky (2005) report gender differences in Philippine remittance behaviour, with male migrants sending more money than female migrants to households in the Philippines, owing to greater male earnings. DeVoretz and Vadean (2007) show that immigrant households belonging to ethnic groups in which people are more attached to their extended family remit more of their income and over longer periods of their lifetime. Faini (2006) points out that highly

skilled migrants remit less than low-skilled because they are more likely to settle permanently and to reunite with their close family in the host country. Lucas (2001), however, argues that highly skilled migrants make a very important contribution to the development of their countries of origin, through remittances, investments and transfer of technology.

Nevertheless, the socio-economic environment and policies in migrant sending and receiving countries might also affect the amount remitted. For example, Vadean (2007) notes that migrants possessing dual citizenship (i.e. of the country of origin and of the host country) are more likely to be remitters and remit higher amounts compared to migrants of only one nationality. This is due to the fact that dual citizenship grants rights to migrants in both the country of origin and the host country (i.e. entry and stay, access to labour markets, possession and acquisition of real estate, etc.), thus, facilitating transnational household savings and investments. Yet, there are many developing and industrial countries that do not recognise dual citizenship such as Afghanistan, Austria, Belgium, China, Germany,[3] Ecuador,[4] India, Indonesia, Japan, South Korea, Malaysia, Pakistan, the Philippines, Singapore and Sweden (US Office of Personal Management 2001).

Concerning the developmental impact of remittances, for long time it was assumed to depend on how the money is spent by the receiving households. A long-standing literature suggests that remittances are more often used on basic consumption needs, health care, and real estate and do not find their way into productive investment.[5] But, whether from remittances or other sources, income is spent in a way ordered by the hierarchy of needs. Therefore, it is reasonable to suppose that until the developing countries reach a certain level of welfare, households will continue to exhibit the same spending pattern (Lowell & de la Garza 2000).

Nevertheless, more recently scholars documented that even the disposition of remittances on consumption and real estate may produce various indirect growth effects on the economy. By improving the household budget they also support children's schooling, better health care and housing, thus, aiding human capital development (Ghosh 1996). As shown by Adams (1998) and IOM (2005), remittance receiving households have a higher propensity to save. Consequently, through remittances capital can be made available for the funding of investment projects. For example, Giulliano and Ruiz-Arranz (2005) found that remittances can promote economic growth in less-financially developed countries by alleviating credit constraints and improving capital allocation. Furthermore, higher spending on basic needs stimulates retail sales, which further increases aggregate demand for goods and services. The empirical evidence indicates that such multi-

plier effects have substantially increased the GDP in Greece and Mexico (Glytsos 1993; Ratha 2003).

However, a necessary condition for the multiplier effects to take place is that production capacities in the migrant sending country flexibly adapt in order to meet the increased demand. Otherwise, negative effects may occur. If the increased demand falls on non-tradable goods, this can generate inflation and/or the appreciation of the real exchange rate, consequently reducing the competitiveness of the domestic industries' manufacturing sector.[6] If the rising demand falls on tradable goods, this can increase imports and generate (or aggravate) trade balance deficits.

Straubhaar and Vadean (2006) assess the importance of the political and macroeconomic environment for the promotion of investments in the home country, from both remittances and other sources. Productive investment does not depend on the households' income improvement, but rather on economic and political stability, market infrastructure, interest rates, stock prices, and macroeconomic policies.

1.2 Motivation and scope

This study builds on the above literature and aims to make certain aspects of the migrants' remitting behaviour accessible, about which little and controversial information exists. There are two different hypotheses concerning the way in which the level of education of the migrants (or the skill level) affects the remittance activity. Lucas (2001) argues that highly skilled migrants would make a major contribution to the development of their countries of origin. Besides sending remittances, migrants with a higher level of education would be more likely to make investments in the home country, because of the skills and expertise they have. He found evidence therefore in the case of East Asian migration. On the other hand, Faini (2006) theorises that skilled migrants would remit less than unskilled because skilled migrants are less likely to return in the home country and more likely to reunite with their close family in the host country.

This paper does not address the return propensity of skilled migrants. A comprehensive literature shows that skilled migrants are more likely to be successful in the host country and, therefore, less likely to return to the home country.[7] Furthermore, in their competition to attract the best and brightest from all over the world, most industrial countries actively promote nowadays the permanent settlement of skilled migrants together with their accompanying family members (Lucas 2001).

I would like to question, however, if the permanent settlement of skilled migrants in their host countries really results in lower remit-

tances flows? I hypothesise that the permanent settlement of a skilled migrant in the host country, often followed in time by naturalisation, changes the purpose of the money transferred in the home country, without necessarily affecting the amount remitted.

In the first years of residence the skilled migrant might remit money to support the consumption of his relatives in the home country. After settlement and reunification of the close family members in the host country, the migrant may reduce remittances for consumption purposes, because the consumption of the family members shifts from the home to the host country. Nonetheless, in the meantime the skilled migrant integrates in the host labour market, improves his/her employment position and accumulates capital. Together with the skills and expertise he/she now possesses this allows him to remit money to his home country for investments purposes. However, such investment transfers depend also on the investment climate in the home country.

The empirical estimation of macroeconomic data, as done by Faini (2006), can be often misleading. Since skilled migrants are more likely to be naturalised in the host country,[8] their remittances are often not included in the balance of payments statistics under the migrants' remittances categories.[9] If a migrant possessing the citizenship of his home country remits money back home, the amount is usually being registered in the balance of payments under *Compensation of Employees* (under *Income*) or *Workers' Remittances* (under *Current Transfers*), depending on whether he is residing for less or more than twelve months in the host country. However, if a naturalised migrant (i.e. having the citizenship of the host country) transfers money to a relative in his home country, the amount is usually registered under *Other Transfers of Other Sectors* (under *Current Transfers*) (Alfieri et al. 2005). The conclusion that skilled migrants remit less might, thus, be due to a selection bias.

This study focuses on the way in which the pattern and use of migrants' remittances are affected by the education level of the migrants, given the specific social and economic framework in the countries of origin. Information is collected through interviews with stakeholders of three immigrant groups in Germany: Afghans, Egyptians, and Serbs. Both the characteristics of their members and the political and macroeconomic framework of their countries of origin differ significantly among the immigrant groups, allowing also for a comparative analysis.

The remainder of the paper is structured as follows: section two describes the methodology. In order to provide context, section three illustrates the immigrant groups and highlights their particularities. Further it gives an overview on the remittances outflows from Germany to Afghanistan, Egypt, and Serbia and discusses the data problems. Section four gives the evaluation of interviews and a compara-

tive analysis among the three groups included in the study in what patterns and the use of remittances in the countries of origin are concerned. Section five concludes.

2 Methodology

This study relies on about 80 guided interviews carried out in Germany, Egypt and Serbia.[10] Using a snowball sampling procedure, key stakeholders (i.e. leaders of diaspora organisations, well-known representatives, and businessmen) of the Egyptian, Afghan and Serbian communities in Germany were identified. In Egypt and Serbia[11] interviews were conducted with representatives of the government and political administration, companies, banks, business chambers, universities and schools, as well as with migrants who had returned to their countries of origin.

The objective of the interviews was to provide context about the remittance behaviour of immigrants in Germany, the intended purpose of the remittances made and their use in the home country. The interviews carried out in the countries of origin (i.e. in Belgrade and Cairo) had to give insight into the ways in which the role and effects of remittances are perceived and judged there, in particular by the economic organisations and political decision makers. The questionnaire further included sections on the characteristics of the interviewee, personal history of migration, social integration and involvement, and the perceived socio-economic conditions in the country of origin.

Interviews with Afghan stakeholders were carried out in Berlin, Bochum, Bonn, Detmold, Freiburg, Hagen i.T., Hamburg and Karlsruhe. Egyptian stakeholders were identified in Berlin, Frankfurt a.M., Munich and Cairo. Finally, Serbian representatives were interviewed in Berlin, Bielefeld, Bonn, Frankfurt, Hamburg, Munich and Belgrade.

Beyond evaluating the interviews, this paper also reviews statistical data from the International Monetary Fund and the national central banks (i.e. German Federal Bank, Central Bank of Afghanistan, Central Bank of Egypt, National Bank of Serbia) concerning the remittances flows from Germany to Afghanistan, Egypt and Serbia, statistical data about immigrant stocks and flows from the German Federal Office for Migration and Refugees (BAMF), the German Federal Ministry for Economic Cooperation and Development (BMZ) and the German Federal Statistical Office, and visa statistics of the German Federal Foreign Office.

3 Afghan, Egyptian and Serbian immigrants in Germany and related remittance flows

With about 10.1 million immigrants in the year 2005 (or 12.3 per cent of its population), Germany is one of the major host countries of international migrants (Münz et al. 2006). Afghans, Egyptian and Serbian migrants are, however, not the most numerous immigrant groups in Germany. With estimated numbers of about 100,000, 24,000 and 700,000 foreign-born, respectively, they account for about 1.0 per cent, 0.2 per cent and 7.0 per cent of Germany's total immigrant population. Nonetheless, the interest in the three immigrant groups emerges from the difference among the characteristics of their members and the socio-economic environment in the countries of origin.

3.1 The Afghan immigrants

The largest stock of Afghan citizens living in Germany was registered in 2001 with about 71,662 people. Since then their number constantly shrank reaching 55,111 in 2005, due to naturalisation, return migration and deportation. Of those, 47,635 were born abroad and 7,476 were born in Germany of Afghan parents. However, the number of total residents of Afghan origin (including naturalized Afghans) is estimated by the German Federal Ministry of Economic Cooperation and Development (BMZ) to be almost double (about 100,000 people).[12]

The first Afghan settlers in Germany were carpet salesmen who stocked their commodities and opened branches in the free harbour of Hamburg.[13] After World War II, migration to Germany occurred in three waves.[14] In the 1950s and 1960s Afghan-German relations were intensely promoted. Several exchange programs took place between the University of Kabul and the universities of Cologne, Bochum and Bonn, allowing graduates of the German High School in Kabul to study in Germany. Most Afghan immigrants during this period were students and businessmen.

The second wave of immigration started in 1979 after the Soviet Invasion. The majority of immigrants in this wave were supporters of the Islamic Mujahedin (i.e. the strongest opponents of the soviet troupes), seeking asylum after the institution of the communist regime in Kabul. The third wave of immigration occurred in the 1990s and consisted also mainly of asylum seekers leaving Afghanistan because of the civil war.

The socio-economic characteristics and the residence status of the Afghan immigrants reflect their different migration patterns. Those who arrived before 1979 (i.e. students and businessmen) are better educated, well integrated, and have a consolidated resident status, i.e.

permanent residency (13 per cent of the residents of Afghan origin) or German citizenship. On the other hand, those who have immigrated after 1979 as refugees still have a less consolidated resident status (30 per cent of the total residents of Afghan origin have a temporary visa and 7 per cent an exceptional leave to remain[15]). Due to the German immigration and asylum policy, they were kept for many years outside the education system and labour market.

However, even those who acquired education and skills in Afghanistan often experienced difficulties having their diplomas and qualifications recognised in Germany. More than 78 per cent of the interviewees indicated having received no further training and having no or less than one year of working experience in Germany in the profession learned. Thus, the majority of them often had to accept jobs below their skill level and experienced a social decline (Bommes et al. 2007).

3.2 The Egyptian immigrants

The Egyptian immigrant group living in Germany is relatively small. According to the German Federal Statistical Office, about 10,258 Egyptian citizens legally resided in Germany in 2005. On the other side, Egyptian authorities estimate the number of emigrants to Germany, including those naturalised, to be about 24,000 (Bommes et al. 2007). Finally, when taking into account also second and third generation migrants, the GTZ (2004b) estimates the number of residents of Egyptian origin to about 40,000.

Already in the 1920s an active Arab community was established in Berlin including businessmen and intellectuals. Due to these initial network connections, Egyptians migrated to Germany in large numbers in the late 1950s and early 1960s as a reaction to the unstable political and economic situation in Egypt. The main reason was education and is reflected today in the high number of highly skilled (e.g. engineers and medical doctors) professionals in the Egyptian community.

The majority of these immigrants are nowadays naturalised (75 per cent of the total residents of Egyptian origin[16]). The process of naturalisation was facilitated by the high number of Egyptian-German marriages, easing the obtainment of citizenship also for the second generation (GTZ 2004b). Moreover, based on family background and relationships, they are highly organised in cultural and professional associations and have strong networks with the social elite in Egypt as well (Bommes et al. 2007).

After 1984 certain numbers of Egyptian asylum seekers also migrated to Germany, primarily because of religious persecution. They were Copts and members of the Muslim Brotherhood. However, their acceptance quota was pretty low, not exceeding 1.2 per cent (Gesemann 1995).

In addition, since the beginning of the 1990s, irregular immigrants of Egyptian origin have continuously entered Germany. Albeit there is little information about their numbers and socio-economic characteristics, it can be presumed that they come from middle class families. The poorer may not have been able to afford the high smuggler fees of up to € 5,000 in order to be shipped over to Western Europe (Bommes et al. 2007).

3.3 The Serbian immigrants

The Serbian immigrant group is the largest in the study. The GTZ (2004c) estimates the number of German residents of Serbian origin to be about 700,000, being the second largest ethnic group in Germany after the Turks. Of those, according to the German Federal Statistical Office (2006a), 297,004 were in 2005 with Serbian citizenship. The immigration balance with Serbia is, however, negative, mainly because of the political forced return of refugees after the end of the Kosovo conflict (Bommes et al. 2007).

Immigration from Serbia occurred on a large scale in the 1960s during the Germany's economic boom. Since then and until the general ban on recruitment in 1973, about 535,000 Yugoslavian workers were granted residence within the framework of the guest worker programme. After the recruitment stop, and as a result of the return policy, about 25 per cent of the Yugoslavian guest workers returned to their country of origin (Malacic 1996). The stock of migrants in the 1980s remained, however, more or less unchanged. This was due to the fact that return migration flows were balanced by further immigration for family reunification reasons (Bommes et al. 2007).

The number of refugees from the disintegrating Yugoslavia rose considerably in the 1990s, with the outbreak of the ethnic conflicts. Between 1991 and 1997, approximately 300,000 people left the country; about the half of these requested asylum in Germany and Austria. The last immigrant wave finally came with the Kosovo conflict at the end of the 1990s (Bommes et al. 2007). As noted before, the numbers of refugees are, however, shrinking because of their political forced return after the end of the war.

Nowadays, the majority of the residents of Serbian origin are naturalised (57 per cent) or have a permanent resident status (19 per cent)[17] and, according to the GTZ (2004c), belong to the German middle class.

3.4 Remittance flows from Germany to Afghanistan, Egypt and Serbia

Following the definitions of Hertlein and Vadean (2006) and Münz et al. (2006),[18] Germany ranks second, after the United States, as a

source country of migrants' remittances. In 2005 the remittance outflow from Germany was estimated to be about € 14.1 billion.[19] However, the statistical data on the remittance outflows from Germany to Afghanistan, Egypt and Serbia have to be considered with care. In Afghanistan and Serbia the statistical collections are poor, while in Egypt the methods of data collection employed seem to differ significantly from those in Germany.

For Afghanistan neither national offices nor international finance organisations record remittance inflows. According to the unpublished statistics of the German Federal Bank, € 22 million in workers' remittances[20] were made from Germany to Afghanistan in 2004.[21] However, the German Federal Bank estimates workers' remittances on the basis of cash self-carries by foreign workers on their trips to their home countries. Further, it supplements these data with estimates on the basis of statistics from the German Federal Employment Agency on the number of employed and unemployed foreign nationals who are subject to social insurance contribution (IMF 2005; German Federal Bank 2006). Therefore, the remittance outflows reported could be strongly underestimated. First, because cash carries are to be declared to the customs only for amounts exceeding € 15,000. And second, because migrants who are not covered by social insurance (i.e. students or part time employees) and those who were naturalised in Germany (about 40 per cent of the residents of Afghan origin) are not included in the estimations.

The remittance flows back to Serbia are also not recorded by the International Monetary Fund (IMF), and the Serbian Central Bank only documents public and private transfers in aggregate, without distinguishing between source countries as well. According to statistics of the German Federal Bank, € 240 million were transferred from Germany to Serbia and Montenegro in 2005 (Walter 2006). However, as mentioned before, these include only official cash transfers of fully social insured Serbian citizens residing in Germany.

The statistical databases for Egypt are much better, but the data provided by the Egyptian Central Bank differs significantly from that of the German Federal Bank. According to the Egyptian Central Bank, the inflows of migrants' remittances from Germany in 2004 amounted to US$ 90 million (Fargues 2005). The German Federal Bank, however, reports in unpublished statistics only € 4 million in workers' remittances outflows to Egypt. And even taking into account all private transfers[22] (€ 12 million), the gap between the two estimations does not narrow much.

An explanation for this great discrepancy in the numbers is that the Egyptian Central Bank probably includes compensations of employees and migrants' transfers in their estimation of the remittance flows.

Furthermore, it is possible that certain money transfers are booked by the two central banks under different categories, for example as remittances by the Egyptian Central Bank and as direct investments by the German Federal Bank.

4 Evaluation of interviews and discussion

This section evaluates the interviews carried out with stakeholders of the Afghan, Egyptian and Serbian migrants in Germany and with return migrants, representatives of the government and economic organisations in Belgrade and Cairo. It is an attempt to provide context about the way in which the education level affects the remittance behaviour of migrant households and the remittance purpose. The issue is approached from two different perspectives. First, the remittance patterns of the immigrants of the same group are analysed, by differentiating with respect to the educational level. And second, the remittance activity among the three immigrant groups is compared, given the fact that the Afghans are mainly less skilled and/or are often employed below their skill level, Serbians have arrived as guest workers and are mainly of middle-skilled level, while the majority of the Egyptian immigrants in Germany are high-skilled.

4.1 Remittances to Afghanistan

Most Afghan interviewees stated that nearly all Afghan immigrant households in Germany financially support their relatives in Afghanistan. They explained that there are mainly poor families in Afghanistan which are receiving remittances. This would be the case for considerable parts of Afghanistan's population which is depending on the remittances of their relatives abroad and use the money received mainly for daily consumption needs.[23] A recent study confirms this fact, estimating that about 15 per cent of the rural households in Afghanistan receive remittances from relatives abroad, covering about 20 per cent of their daily expenditures (World Bank 2004). Migrant households, thus, remit money both regularly for day-by-day consumption of the relatives and/or in the case of an urgent need such as the sickness of relatives and the purchase of medical services.

Only one interviewee mentioned that one of his friends in Afghanistan received financial support from relatives in Germany for the renovation of his house. Another friend of his bought used cars in Germany and sent them to his brother in Kabul, thereby helping him to start a small business.

However, such small business investments are rather uncommon, so the opinion of another interview partner. In general, the amounts remitted would be relatively low. The managing director of a company that recently started offering formal *hawala* banking services[24] in Hamburg confirmed this assumption. He stated that the majority of his regular customers are households of Afghan origin which remit on average about 200 Euro/month to relatives in Afghanistan.[25]

No concrete example of a productive investment made by an Afghan immigrant in his home country was mentioned during the interviews. The few participating businessmen of Afghan origin only referred to having plans to do so.

For instance, the owner of a successful German illumination company[26] expressed his intention to establish a small factory for illumination systems in Kabul. He was born in Afghanistan. He graduated from the *Amani* high school in Kabul, started his university studies and then had to flee. He was 18 years old when he came to Germany and has now German citizenship. He has the feeling of owing something to his country. Through his intended investment project, he wants to give his home country something back because he could enjoy a good and successful life in Germany.

According to his business plan, in the first years lamps will be produced for the Afghan market only. Then, in a period of seven years, deliveries will be expanded to the Asian and European markets. As only a few machines will be used in his manufacture, he plans on employing about 70 workers after one to two years. The preliminary products should be imported in the short and medium term from Germany. However, his target is to produce and/or buy about 70 per cent of all needed materials in Afghanistan. The lamps should find their use in airports, schools, hospitals and private houses and should convince through quality.

Regarding the question of whether and when his investment project will be implemented, he answered that in the last years he had monitored the political development in Afghanistan. However, he is now quite confident that the Afghan government reached certain stability and finds it stimulating to see that it succeeded in the last years to foster the economic and political development of the country.

Further, he mentioned also knowing a young self-employed engineer of Afghan origin who also intends to invest in Afghanistan. He wants to open an engineering office for the planning of steel construction systems. However, he would be hesitant, as many others, because of the lack of financial backing.

A member of Afghanistan's diplomatic mission in Berlin stated that the Afghan government adopted regulations for the establishment of a free market economy and also measures to promote investments. In-

vestors would obtain the necessary licences very easily and under certain circumstances the government provides land for the construction of industrial plants. Furthermore, raw materials can be imported in Afghanistan tax-free. Still, investments in Afghanistan are very low. The major obstacles for the implementation of investment projects are the lack of proper infrastructure (in particular electricity) and the difficulties concerning access to land acquisition, qualified labour and financial services (World Bank 2005b).

To conclude, Afghan immigrants in Germany remit usually only relatively small amounts of money with the purpose of supporting the daily consumption of their relatives left in Afghanistan. Such transfers are made even by migrants that have settled in Germany a long time ago, and over all educational and skill levels. Moreover, skilled migrants that have successfully built up businesses in Germany seem to be willing to invest in Afghanistan. However, they still wait for a well-established political stability and better infrastructure.

4.2 Remittances to Egypt

In comparison to the Egyptian labour migrants (who typically migrate to the Gulf States), the Egyptian immigrants in Germany rarely have to remit money for the financial support of their families. There are two reasons for that. First, they originate mainly from wealthier upper middle-class families in Egypt. And second, the spouse and children often accompanied them or they founded families in Germany and, thus, the majority have only distant relatives left in the home country.

Therefore, remittances of Egyptian immigrants in Germany are not made regularly but are linked to a specific need, that is, the amount remitted depends on the particular need of the family member asking for money. Such a remittance pattern seems to be typical for the upper middle-class Egyptian immigrants who were interviewed.

The most important remittance purpose, however, seems to be the acquisition of real estate. In the case of older migrants, apartments and houses bought in Egypt are not only an investment saving, but are often used as a secondary residence too.[27]

Nevertheless, many of the interviewees remitted money to Egypt for investment purposes. For example an Egyptian engineer stated that he returned to Egypt after doing his PhD and lecturing for many years at the Darmstadt University of Technology, since he wanted to set up a business. In Germany this would have been very hard because the markets are saturated. Thus, in the mid-1980s, he bought a paper factory together with another Egyptian colleague from the Darmstadt University of Technology. Later, he founded a trade company that represents several German companies in Egypt. The products traded are mainly

machines, special stones for high-temperature kilns, and steel. Most recently, he bought a holiday village at the Red Sea.

His latest investment is the founding of a German private school in Cairo. The school is organised following the German model and can host 1,200 children, while the classes are both in German and Arabic. He has invested about € 1.6 million and hopes to make profits from running it in a few years. However, at the moment he has to bear losses because the school has not attracted the complete number of pupils yet. He declared that in order to be able to afford taking the risk of such an investments one has to have a high enough financial potential and the income for the general consumption of the family secured.

Another Egyptian immigrant who runs a successful solar energy business in Germany, also reports having several investment projects in Egypt. For example, he founded a furniture factory with about 1,000 employees, producing mainly car seats for the German market. Further, he built up a hydraulic factory and organised for his employees to be trained in Germany. Finally, he set up a German school in Cairo as well.[28]

Another successful investment project in Cairo is a medical practice of an Egyptian physician who studied and practices in Germany. It consists of two parts: an orthopaedic and a telemedicine practice. The latter is still in the organisation phase. The patients will be attended by an assistant doctor who makes the first health check and sets an appointment for a teleconference with a specialist from a German clinic. If an inpatient treatment is necessary, the assistant doctor organises the patient's trip to Germany. Post-operation treatments should also be carried out in Cairo. The practice is not making profits yet. The owner mentions that without his income from Germany, he could not afford to make this investment. Still, he hopes that his effort will pay off in the future.

While remittances for the support of family consumption of their relatives back home seem to be less common for the highly skilled Egyptian immigrants in Germany, they seem to remit significant amounts of money for the acquisition of real estate and for productive investments. In the observed examples of investment projects conducted by Egyptian immigrants in their home country, the protagonists are skilled migrants originating from Egyptian upper middle-class families. However, since the key stakeholders of the Egyptian diaspora in Germany all have the same educational and social characteristics, it should be noted that the snowball sampling technique could have determined that only people belonging to this social group have been interviewed. Still, evidence can be reported that Egyptian skilled migrants remitted important amounts and successfully invested in their home country, generating employment opportunities as well as contributing to the development of the Egyptian education and health systems.

4.3 Remittances to Serbia

The majority of interviewees affirmed that the main remittance purpose for Serbian immigrants is the acquisition of real estate in their home country. Alternatively, remittances are used for consumption, for setting up small businesses or are deposited in Serbian bank accounts.

A technician who immigrated to Germany in 1976 and works as a quality analyst at BMW stated that he spends his holidays every year in Serbia. He estimates that he spends about € 5,000 there every year for his own consumption, as financial support for his relatives but also as investments in real estate. He owns five apartments in Serbia and his mother rents them out. The rental income is partly used for consumption purposes by his mother and the rest is deposited in Serbian banks, because of the interest rates being higher than in Germany.

The general manager of the ProCredit Bank Serbia reveals that an increasing number of Serbian emigrants deposit their money in Serbian and foreign banks located in Serbia.[29] With annual interest rates of 4 to 6 per cent, fixed deposits in euros would be highly attractive. Still, the banking sector has to make important efforts in attracting savings of the Serbians living abroad. The trust of the Serbian people in the financial sector was betrayed in the 1990s when the Serbian government froze private foreign exchange accounts for financing the war, numerous financial pyramid systems collapsed and hyperinflation eroded the savings. Therefore, some foreign banks, like the subsidiary of the HypoVereinsbank Switzerland, offer to their clients additional guarantees of the parent bank.

From the interviews, no outstanding investment project of a Serbian immigrant could be identified. In the same time, the number of small business investments, as explained by a representative of the Serbian Chamber of Industry and Commerce, remains unknown. For example, a friend of his received a machine for manufacturing of insulating tapes from his parents (who are working in Germany). With this machine he started a small business and makes his living. The business is, however, not registered, belonging in a way to the underground economy.

The main reasons of such scarce productive investments by the Serbian immigrants could be the fact that the Serbian political environment is still fragile and the rule of law lacks implementation. However, most of the Serbian immigrants in Germany belong to the working class and many of them are at retirement age. Thus, they might lack also the necessary business skills. They rather use their savings for buying real estate or deposit them in bank accounts to earn interest. The second and third generation does not invest directly either. Those working in highly skilled jobs often act as middlemen in direct invest-

ment projects in their home country and use this as a chance for career promotion within the framework of the company's transnationalisation process.

4.4 Comparative analysis

The three immigrant groups included in this study differ significantly in terms of their skill composition. The Afghan immigrant group consists of people being employed on average in lower-skilled jobs. The majority of the Serbian immigrants arrived in Germany as guest workers and belong to the middle-skilled worker class, while the Egyptian immigrants originate from Egypt's upper middle-class. They came to Germany mainly for the reason of studying and are nowadays on average a highly skilled immigrant group, belonging to the German upper middle class.[30]

The remittance habits as well as the use of remittances in the home countries also seem to be quite different among the three immigrant groups. Afghan immigrants usually remit comparatively lower amounts on a regular basis (€ 200/month), which largely serve as a means of subsistence for the recipients. Besides financing consumption expenditures of their relatives, many Serbian immigrants use the money remitted for buying real estate or deposit it in Serbian bank accounts. Finally, Egyptian immigrants, having the highest financial potential from the three groups, remit money mainly for the acquisition of real estate and for investments in the manufacturing and the service sector.

However, the more frequent remittance activity of the Afghan immigrants does not mean that Afghans remit on average more. Buying of real estate (i.e. in the case of Serbs) and productive investments (i.e. in the case of Egyptians) occur more seldom, but the related amounts are much higher.[31] Thus, the resulted per capita annual averages might be higher as well, meaning that a highly (i.e. Egyptians) and/or middle-skilled (i.e. Serbs) immigrant group remits on average also more than a low-skilled one.

On the other hand, the remittance behaviour does not depend only on the financial potential (e.g. the education, skills, and income level) of the immigrants but also on the development level (i.e. infrastructure, availability of skilled labour) and the investment climate (i.e. political and macroeconomic stability, rule of law, interest rates, development strategies) in their home country.

The different economic and political situation in the countries of origin makes it difficult to establish a causal link between skills and remittances from the comparison of the three immigrant groups. However, it explains why immigrants with the same skill level have such a

different behaviour concerning remittances and the use of these repatriated savings. Afghan immigrants who have the skills and financial means for investing in Afghanistan are not doing so but are still awaiting the infrastructure destroyed in the long lasting war to be rebuilt by means of official financial assistance and monitor the political development in their country of origin. Similarly, due to the political and macroeconomic instability in Serbia in the 1990s, Serbian skilled migrants prefer to make investment savings that involve a lower degree of risk (i.e. acquisition of real estate, foreign exchange deposits on bank accounts) and engage in direct investment projects only as middlemen. In contrast, in the last decades Egypt has enjoyed political and macroeconomic stability and in the last years the government has made important efforts in liberalising the economy as well as improving communications and physical infrastructure. This is perhaps a major reason why the highly skilled Egyptian migrants invest their wealth accumulated in both the home and host country in Egypt's manufacturing and service sector.

Based on the interviewees' responses, it can be presumed that in the case of equally favourable investment conditions to those in Egypt, skilled migrants from Afghanistan and Serbia would start remitting larger amount of their savings and invest them in their home countries. For a developing country, having a large skilled diaspora does not necessarily mean having large remittance inflows. A sound financial system, the guarantee of property rights, the set-up of free and open markets and development strategies involving all actors of the economy seem to be the key to assuring large inflows of remittances (but also of foreign capital) as investment savings and as productive investments.

5 Conclusions

This paper aimed to provide insight about the way in which the education and skill level of migrants affects the remittance habits, purpose, and use, in the context of Afghan, Egyptian and Serbian immigrant groups in Germany. The information about the remittance patterns of the immigrants was collected through guided interviews with key stakeholders of the immigrant groups, identified by a snowball sampling technique.

The socio-economic structure of the three immigrant groups differs significantly, with the Afghan immigrants being on average low-skilled, the Serbian immigrants middle-skilled and the Egyptian immigrants highly skilled. This allowed, besides analysing the remittance behaviour in each group with respect to skills, for a comparative perspective on the remittance behaviour among the immigrant groups.

While the conclusion whether highly skilled migrants remit more or less compared to low-skilled ones is not straightforward, this study provides evidence that the skill level significantly affects the purpose of remittances towards more productive investment. Whilst low-skilled migrants mainly remit for securing the consumption need of their family members, the remittances of middle-skilled migrants are more often used for investment saving (e.g. buying of real estate or bank account deposits), and highly skilled migrants make productive investments in their home countries.

The migrant's endowment with human capital often assures that he/she earns more money than he/she and his/her family require for meeting their basic needs and money is left for savings and investments. Moreover, the skills and expertise accumulated through education and work experience are also very important for the implementation of investment projects. However, investment remittances are strongly conditioned by the investment climate in the home country. While the qualitative approach in this paper aimed to provide some insights about the effect of skills on the remittance behaviour of migrants, more in-depth quantitative research is needed for analysing the sign of the relationship.

However, there should be noted that the remittances made by skilled migrants are often not included in the official statistics. On the one hand, skilled migrants have a higher propensity of being naturalised in the host country. In this case, their remittance payments are registered under *Other Transfers of Other Sectors* and not under the classical migrants' remittance categories (i.e. *Compensation of Employees* and *Workers' Remittances*). On the other hand, as resulting form this study, highly skilled migrants are more likely to invest in their home countries compared to low-skilled ones. These investment transfers are often not booked under the migrants' remittance categories but under *Portfolio Investments* and *Direct Investments* and can not be distinguished from investments of non-migrants. The macroeconomic analysis on the effects of skills/education on the remitting behaviour of households has, therefore, to deal with serious selection bias.

National central banks and the IMF have increased efforts in the last years for improving the statistical data collection on migrants' remittances. However, until they succeed in producing better and more transparent statistical data, more consistent analyses on the interdependence between skills/education and the remittance behaviour could be performed on the micro level.

Notes

1 Support from Friedrich Naumann Foundation and the Migration Research Group – HWWA/HWWI, Hamburg, is noted with appreciation. The paper is based on the project 'Egyptian, Afghan, and Serbian Diaspora Communities in Germany: How do they Contribute to Their Country of Origin?' commissioned by the German Ministry of Economic Cooperation and Development and the GTZ and conducted by a joint team from IMIS, Osnabrück and HWWA/HWWI, Hamburg. The author thanks to Tanja El-Cherkeh, Nadia Vadean and Holger Kolb for proofreading and valuable comments. Keywords: international migration, remittances. JEL Classification: F22, F24.

2 See IOM (2005), OECD (2005, 2006), Özden & Schiff (2005), and World Bank (2003, 2005a).

3 Dual citizenship allowed only in a few exceptional cases.

4 Only mutual recognition of dual citizenship with Spain.

5 For a more detailed overview see Straubhaar and Vadean (2006).

6 This is the so-called 'Dutch disease' effect.

7 For a more detailed overview see Faini (2006: 4).

8 Own calculations based on ad hoc modules drawn from the European Community Household Panel (ECHP) for the year 2005 show that while about 80 per cent of the highly skilled immigrants born in a country outside the EU-27 are naturalised in their EU country of residence, only about 50 per cent of the medium-skilled and about 20 per cent of the low-skilled immigrants from these countries are naturalised, respectively.

9 The largest share of the migrants' remittances is recorded in the balance of payment statistics category *Workers' Remittances* (under *Current Transfers*). According to the specifications of the IMF, further categories in which remittances are booked are *Compensation of Employees* (under *Income*) and *Migrants' Transfers* (under *Capital Transfers)*. For more on migrants' remittances in the balance of payment statistics see Straubhaar and Vadean (2006: 140-141), Hertlein and Vadean (2006: 3) and Münz et al. (2006: 43-44).

10 The interviews were carried out in the framework of the project *Egyptian, Afghan, and Serbian Diaspora Communities in Germany: How Do They Contribute to Their Country of Origin?* commissioned by the German Federal Ministry of Economic Cooperation and Development and the German Technical Cooperation (GTZ) and conducted by a joined team of the Institute for Migration Research and Intercultural Studies (IMIS), University of Osnabrück and the Migration Research Group (MRG) of the Hamburg Institute of International Economics (HWWA/HWWI).

11 No field study was carried out in Afghanistan because of the financial and security costs involved.

12 See GTZ (2004a).

13 According to subjective estimations of interviewees, nowadays, 50 per cent of the about three hundred carpet salesmen in the Hamburg harbour are of Afghan origin.

14 For details see Bommes et al. (2007: 9-11).

15 Are tolerated to stay but can be deported anytime.

16 Source: author's calculations; German Federal Statistical Office (2006a, 2006b).

17 Source: author's calculations; German Federal Statistical Office (2006a, 2006b).

18 The amount of the compensation of employees plus 50 per cent of the private transfers (i.e. sum of the balance of payments items workers' remittances and other transfers of other sectors). For details see Hertlein and Vadean (2006: 3), and Münz et al. (2006: 43-44).

19 Author's calculations; German Federal Bank (2006).

20 See footnote 9 for more details of the migrants' remittances items in the balance of payments statistics.
21 Data for compensations of employees and migrants' transfers were not available.
22 These should include both cash and bank transfers of all legal residents in Germany.
23 See also Van Hear (2003).
24 A remittance systems which is based on trust and relies on social ties such as family or regional affiliations.
25 Such amounts are low when judged by European standards. However, they are substantial when compared to the average income in Afghanistan.
26 The company designed and implemented for example the actual illumination system of the Cologne/Bonn airport.
27 Compare with the case of Serbian immigrants (section 4.3).
28 There are three private German schools and a private German university in Cairo, all set up by Egyptian emigrants to Germany.
29 The 'Euro-isation' is quite high in Serbia, compared to international standards. According to IMF estimates, more than 66 per cent of the bank deposits and more than 75 per cent of the bank credits are denominated in euros. This would be due to the high inflation and to the fact that real interest rates in Serbian dinar are negative.
30 The three immigrant groups were described in more detail in section 3.
31 The amount of about € 5,000 per migrant per year indicated by one of the interviewees seem, however, to be rather overestimated.

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The Impact of Migration on Foreign Trade in Bolivia

Gustavo Javier Canavire Bacarreza and Laura Ruud

1 Introduction

Several studies show that the structure of the national origin of countries' population plays an important role for trade patterns. For developing countries the relationship can be weaker, as those economies are in the process of structural changes. Still, taking into consideration the impact of the migration flows on trade, the migration policy can be formed more optimally to support the economic development of the country.

We test the hypothesis that the migration flows have significant impact on foreign trade in developing countries but the impact is smaller than in developed countries. We use quarterly data of migration, exports and imports of Bolivia for the years 1990 to 2003. Following previous studies we apply the methodology of gravity equation. The estimation of the migration data is based on an attrition coefficient for inflows and stocks of migrants. We control for GDP and for traditional trade cost variables: prices, distance and the adjacency of trade partners. We compare our estimation results to the results of previous studies on developed countries.

The paper is structured as follows. First, trade and migration linkages are discussed based on the available literature. Second, we describe migration and trade patterns in Bolivia. Third, we explain the methodology applied and the data used. Finally, we introduce the estimation results, followed by conclusions.

2 Trade and migration linkages: theory and empirical evidence

In the literature we can find description of linkages between migration and trade in both directions: impact of foreign trade on migration flows and impact of migration on foreign trade flows. As expected, the migration officials and researchers focus generally on trade impact, especially foreign trade policy impact on migration (see e.g. Morrison 1982). Economists, on the contrary, usually study the impact of migra-

tion, more precisely the impact of immigration on foreign trade flows (see e.g. Wagner et al. 2002 for an overview).

In empirical studies, the effect of migration to trade is more recognised compared to the other way round. Parsons (2005) claims that there is 'a robust and positive relationship between immigration and bilateral trade flows', but the effect of foreign trade on migration is rather 'indirect and not necessarily significant' (Morrison 1982: 7). Globerman (1995) questions the empirical strength of the relationship, as Canada's trade shares have not increased with two of its sources of new immigrants, Hong Kong and India. Still, next, the migration and trade linkages are referred to as in the context of migration influencing foreign trade.

There are several mechanisms through which immigration might facilitate trade (see for a discussion Globerman 1995). Usually, immigrants' role in expanding trade with their country of origin has been seen in lower transaction costs, but also in different preferences compared to non-immigrants. Generally, the following reasons for a positive linkage from migration to trade are listed (Head & Ries 1998): (1) Immigrants' superior knowledge of market opportunities, (2) immigrants' preferential access to market opportunities, (3) immigrants' preferences for particular varieties of foreign products (including their home countries).

Several studies show[1] that not only transportation costs limit trade but also transaction costs in general. According to Head and Ries (1998), 'immigrants may serve a role as trade intermediaries'. Immigrants may have lower costs for international trade with their home countries and can therefore be more likely to trade compared to non-immigrants.

Parsons (2005) refers to the studies of the immigration impact on trade as 'immigrant-link studies'. We can find about ten published studies from since the 1990s that explore the impact of immigration on trade. More studies have been implemented on the United States and Canada together (Gould 1994; Dunlevy & Hutchinson 1999, 2001) and separately on the US (Head & Ries 1998; Wagner et al. (2002) and on Canada, reflecting the relevance of the topic for countries with a strong immigrant inflow. Additionally, there are studies on the UK (Girma & Yu 2002), French provinces (Combes et al. 2003) and on the European Union (Parsons 2005). There is only one study by Rauch and Trindade (2002), which integrates several (63) countries into a common network to explore the migration effects on trade (see appendix 1).

The focus of the studies varies across the articles. Some cover differentiated products only (Gould 1994; Dunlevy & Hutchinson 1999, 2001) or all products, some discuss immigration heterogeneity (Head

& Ries 1998), others business networks (Rauch & Trindade 2002). We can distinguish the studies exploring either cross-border (referring here to the national border) trade or migration, and the studies restricting to the intra-country flows, that is, across French provinces (Combes et al. 2003) and Canadian provinces (Wagner et al. 2002). We could argue that the motives and processes occurring within a country differ significantly from the ones of cross-border character.

The impact of immigration on trade depends, among other factors, also on the composition of trade flows. In Canada, for example, the main exports categories, natural resources and US-bound automotive goods, are not likely candidates for transaction cost reductions by immigrants, as the main share of immigrants originates from East Asian economies (Head & Ries 1998). At the same time we can assume that migration flows can affect also the composition of trade flows, that is, introducing new product flows or amplifying product flows with historically low importance.

The studies on immigration impact on trade use the methodology of gravity equation that has been a popular approach for estimating trade flows in general (especially in terms of actual vs. expected trade flows). In previous studies, the authors have added several specific explanatory factors, in addition to general 'standard' gravity equation explanatory factors (GDP, population, distance).

The results, although from several countries and for very different time periods, are quite homogenous. The exports and imports elasticities range from 0.01 to 0.47. In some studies the exports elasticities are estimated to be higher than the imports elasticities (e.g. Gould 1994; Combes et al. 2003), while in the others studies the results are the opposite (e.g. Head & Ries 1998; Dunlevy & Hutchinson 1999, 2001). The relative magnitude of the effect on exports and imports seems to vary across countries.

3 Cross-border migration and trade patterns in Bolivia

3.1 Population structure and migration flows in Bolivia

Bolivia is a very homogenous country with a small number of inhabitants having some other nationality than Bolivian. About one-third of all immigrants are from Argentina, followed by Brazil and Peru, that is, from the neighbouring countries of Bolivia (see figure 1). A relatively large share of immigrants is also from Mexico, followed by Chile, the US and Paraguay. The share of immigrants from the other countries in total foreign-born population remains below 2 per cent.

Compared to National Census of Bolivia 1992 statistics, the general structure of foreign-born population has remained similar. The propor-

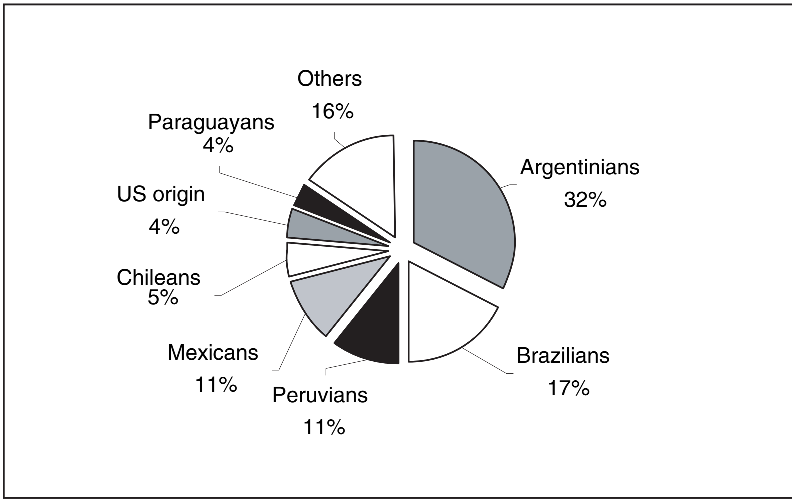


Figure 1 *Structure of foreign-born population in Bolivia (2001)*
Source: National Census of Bolivia (2001)

tion of Chileans and Paraguayans has slightly increased, while that of Mexicans, Canadians (from 3 per cent to 2 per cent) and US-born people has slightly decreased.

The arrivals and departures statistics by nationality show that the number of immigrants in Bolivia is increasing (National Statistical Office 2001). The largest number of people entering and not leaving the country has been from Peru; the increase of immigrants from other countries (Ecuador, Argentina and the US) has been much smaller.

Bolivia, like many developing countries, is affected by two types of emigration: the first is related to highly qualified people, including professionals and technicians, also called 'brain flow', which has a low demographic effect but a great impact in human capital reduction terms. The other type is the emigration of less-qualified people who generally move to adjacent countries, having a bigger impact on the population growth of the home country. In general, most of the less-qualified Bolivians have moved to Argentina. This is mainly because of the better conditions that this country had in the past, especially before the crisis of 2002.

The main reasons for people to move are related to better life and work expectancies in a foreign country, but also adverse economic, social and political conditions in the home country. Bolivia has faced difficult times over the last years: the unemployment rate has increased from 5 per cent to 8 per cent during the last ten years and it is a country with the biggest informal employment in the region (over 60 per cent of the employed are working informally).

There are generally two ways to estimate the number of emigrants. The first is the use of data available from censuses of recipient countries. The data is provided by the Economic Commission for Latin American and Caribbean (ECLAC) at the United Nations. The second approach is to make estimations based on changes in the domestic population. The estimations of the National Statistical Office of Bolivia show that Bolivia has lost 155,000 inhabitants between 1980 and 1985, 103,000 people during the period 1985 to 1990, 50,000 more over the years 1990 to 1995, and 35,000 during 1996 to 2000 (Ministry of Sustainable Development 2004). The estimation for 2000 to 2005 is 30,000 people. The projections show that the country has lost highly qualified people and less qualified people as well, but at a decreasing rate over the last 20 years.

Most of the Bolivians have moved to the US and Argentina. According to census data of Argentina, since 1969 the number of Bolivian immigrants has increased more than 1,500 per cent. Over the last period this growth rate has decreased but is still high. According to the Ministry of Sustainable Development (MDS) of Bolivia (2004), most of the Bolivian immigrants to Argentina are less-qualified people (generally peasants, and people with only primary education) that end up working in low-paid jobs – a situation similar to Mexican migrants moving to the US.

The second biggest Bolivian migrants' recipient is the US, where the number of Bolivian migrants has increased considerably. Over the period 1970 to 1990 the number of people born in Bolivia but living in the US increased five times, and over the period 1970 to 2000 seven times. The difference between the migrants that move to the US and those leaving to Argentina is that the former are in general more qualified people. According to the MDS (2004), on average this group has a secondary or post-secondary education.

Regarding the Andean community, emigration to these countries from Bolivia has not been considerable, accounting for less than a half of the migrants to Argentina among all the Andean countries (Peru, Ecuador, Venezuela and Colombia). The reason could be that most of the Andean countries are perceived to offer similar conditions to the ones present in Bolivia, that is, they are countries characterised by a low average income.

There are no data available for Bolivian emigrants in European countries or other countries not mentioned above. Although the number of Bolivian emigrants in those countries is expected to be low compared to the Caribbean and Andean countries and the US, the availability of currently missing data would still give some important information, especially for the countries with relatively intensive trade and other economic contacts with Bolivia.

3.2 Trade patterns in Bolivia

Bolivia is a relatively closed economy in terms of trade flows, the overall merchandise trade amounting to 60 per cent of GDP in 2004. During the 1970s Bolivia was mostly a self-providing economy. International trade started to develop at the end of the 1980s after the adoption of a government decree that liberalised prices and favoured the development of international trade of Bolivia, in 1985. The decree was applied as a package of policies after a hyperinflation period and helped to stabilise the economy following the Washington Consensus and started what is known in the country as the neo-liberal period. The commercial policy enabled to unify customs tariffs in order to promote exports.

The liberalisation of foreign trade took place mainly in 1985 to 2000. The main increase of foreign trade resulted from the much stronger (15 per cent) rise in imports compared to exports. At the beginning, the exports were not that much influenced by liberalisation, due to weak policies and compensation mechanisms (Antelo 2000). One reason for strong import growth was the reduction of import tariffs from 20 per cent to 10 per cent. The other reason why exports remained lower than the imports was the decline in export prices compared to import prices, i.e. the worsening of terms of trade.

Since 1989, Bolivia has been participating in GATT and is a member of the WTO. In order to improve access to export markets, Bolivia has signed several regional trade agreements and has improved the existing agreements. During the 1990s, Bolivia signed several partial integration agreements through the Latin American Integration Association (LAIA): Peru (1992), Chile (1993) and MERCOSUR (1997), and a free trade agreement with Mexico (1995). Moreover, Bolivia is a beneficiary country of the Andean Trade Preference Act (1991) of the US and the Andean Generalised System of Preferences (1990) of the European Union. Both agreements granted preferential tariffs as a support for the Andean Community's war on drugs, under the principle of shared responsibility. Recently, Bolivia signed a partial integration agreement with Cuba (2000) and is a beneficiary country of the Andean Trade Promotion and Drug Eradication (ATPDEA).

During the period 1991 to 1997, trade policies concentrated on expanding the export markets for Bolivian goods by signing trade agreements with the main trading partners. Bolivia signed agreements with Chile, Mexico and MERCOSUR and became a full member of the WTO in 1995. Both imports and exports grew strongly during the period of increased integration. For example, both imports and exports increased significantly right after signing the agreements with MERCOSUR in 1997 mainly owing to manufacturing and gas.

A major accomplishment during the 1990s was the approval of the Export Tax Law in 1993, which compiled and consolidated a range of previous rules regarding exports. The law stipulates: free exports and imports without any license or permission, and government guarantees for international export financing. Moreover, the government created six free trade zones (FTZs). Currently, FTZs exist in the three main cities and in three cities on the borders of Brazil and Peru. They have not yet proven to be attractive for investors, though, because of the lack of roads and other basic infrastructure.

The performance of trade improved steadily until 1998, when trade flows started to decrease as a result of external shocks and the implementation of the Customs Law in 1999. The latter had the objective of decreasing illegal imports and increasing the recollection of import tariffs. The period 1998 to 2002 was characterised by economic recession and the government implemented several temporary policies to revive the economy. Among these were tariff reductions on capital goods from 10 per cent to 5 per cent and tax exemptions for exporters.

In 2004, the exports and imports constituted close to 60 per cent of nominal GDP, compared to around 50 per cent in the preceding decade. In Bolivia, imports exceeded exports in the 1990s, achieving the highest level in 1998. In 1999, a new customs law was applied which had a direct adverse impact on imports, even though the objective of the law was to control illegal imports and collect more import tariffs. After the decline in 1999 to 2001, imports have stabilised at around US$ 1.8 billion in recent years. Exports were more stable in 1990s, starting to increase significantly in 2003 and exceeding imports in 2004.

Compared to 1985, foreign trade with South American countries has increased from 36 per cent to 46 per cent in 2004. The main trade partners both in terms of exports and imports are in South America and in Europe. The volumes of imports and exports are comparable with those of South American trade partners. The imports from North America and Europe differ remarkably; after the abolishment of the embargo the imports from Asia have increased from 2.6 per cent to 7.3 per cent.

Bolivian foreign trade is relatively strongly concentrated to the trade with the three main partners constituting over 50 per cent of exports (see figure 2) as well as imports (see figure 3). As to exports, the concentration is somewhat higher compared to imports.

Among the main trade partners we find adjacent neighbours of landlocked Bolivia. Out of the five adjacent countries, Brazil and Argentina have been among the main trade partners over the observed fifteen years. The trade with Chile and Peru has been somewhat less intensive, still constituting a significant part of Bolivian trade. The ranking

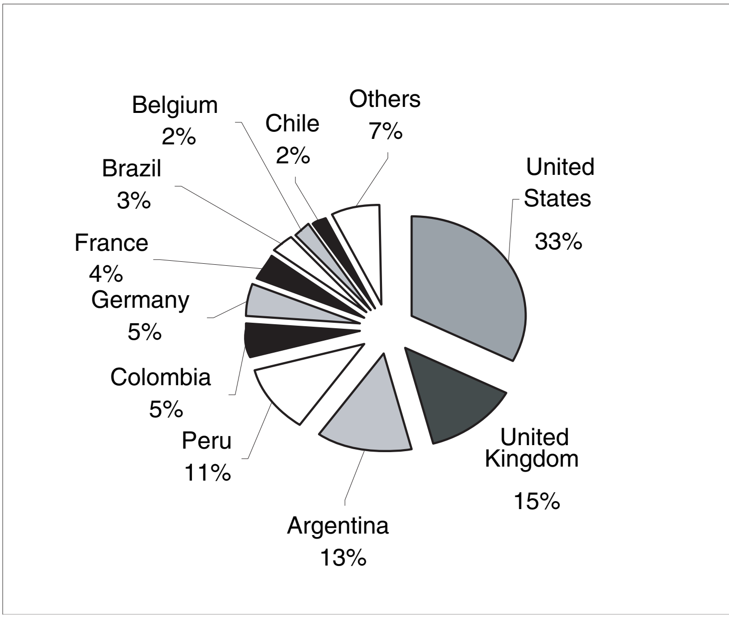


Figure 2 *Export partners of Bolivia (2004)*
Source: National Statistical Office of Bolivia (2001)

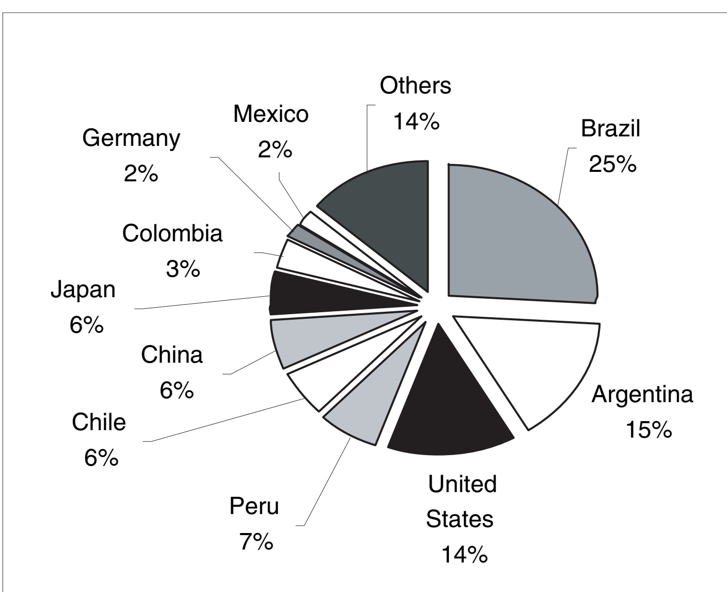


Figure 3 *Import partners of Bolivia (2004)*
Source: National Statistical Office of Bolivia (2001)

and the share in total exports and imports of the adjacent countries vary across years, but they have always been among the top ten trade partners of Bolivia in terms of volumes. Trade with the remaining neighbour of Bolivia, Paraguay, is less important, accounting for less than 2 per cent of the total trade.

Among the overseas countries, the US is one of the three main trading partners, both in exports and imports. Over the years, trade with Germany has also been relatively important. In exports, the United Kingdom has remained one of the most important partners whereas the share of Belgium has somewhat decreased. In imports, Japan has been a relatively important partner, and in recent years also China.

Before 1990s, Bolivia could have been characterised as a mono-exporter, as its main exports articles were minerals. Since the 1990s, mining has been partly substituted by soya, wood, natural gas and jewellery that are dependent on the fluctuation of world prices. On the other hand, the imports structure has not changed considerably. Bolivia is an importer of processed products and in a low-scale material prima. These two categories account for over 75 per cent of imports.

4 Methodology and data

For the measurement of the migration impact on trade flows we apply the traditional gravity model approach (see, e.g., Bergstrand 1985), as was done also in the studies referred to in the first chapter. In addition to generally used variables in gravity equation – GDP, prices, distance and adjacency of the trade partner – we add a migration variable. We estimate separate models for exports and imports.

We estimate three sets of models. The first two test the impact of migration on exports and imports of Bolivia, and the third focuses on the impact on intra-industry trade. First, we estimate the impact of immigration on exports and imports (see equations 1 and 2, respectively) and second, the impact of emigration on exports and imports (see equations 3 and 4, respectively):

$$(1) \quad \ln EXP_{it} = c + \beta_1 * \ln GDP_{it} + \beta_2 * CPIM_{it} + \beta_3 * \ln DIST_i + \beta_4 * ADJ_i + \beta_5 * IMMI_{it} + \varepsilon_{it},$$

$$(2) \quad \ln IMP_{it} = c + \beta_1 * \ln GDP_{it} + \beta_2 * CPIM_{it} + \beta_3 * \ln DIST_i + \beta_4 * ADJ_i + \beta_5 * IMMI_{it} + \varepsilon_{it},$$

$$(3) \quad \ln EXP_{it} = c + \beta_1 * \ln GDP_{it} + \beta_2 * CPIM_{it} + \beta_3 * \ln DIST_i + \beta_4 * ADJ_i + \beta_5 * EMI_{it} + \varepsilon_{it},$$

$$(4) \quad \ln IMP_{it} = c + \beta_1 * \ln GDP_{it} + \beta_2 * CPIM_{it} + \beta_3 * \ln DIST_i + \beta_4 * ADJ_i + \beta_5 * EMI_{it} + \varepsilon_{it}.$$

The notations c and $\beta_1 ... \beta_5$ denote parameters, β denotes the residual, i and t denote countries and years, respectively. The explanation of acronyms is given in appendix 2.

For intra-industry trade, we estimate similar equations with the immigration and emigration variable (see equations 5 and 6). As a measure of intra-industry trade, we use the traditional Grubel-Lloyd index $(GL)^2$ as an endogenous variable:

$$(5) \quad GL_{it} = c + \beta_1 * \ln GDP_{it} + \beta_2 * CPIM_{it} + \beta_3 * \ln DIST_i + \beta_4 * ADJ_i + \beta_5 * IMMI_{it} + \varepsilon_{it},$$

$$(6) \quad GL_{it} = c + \beta_1 * \ln GDP_{it} + \beta_2 * CPIM_{it} + \beta_3 * \ln DIST_i + \beta_4 * ADJ_i + \beta_5 * EMI_{it} + \varepsilon_{it}.$$

Intra-industry trade is trade in similar products, that is, a country exports and imports very similar heterogeneous products. The higher the share of intra-industry trade in the total trade of a country, the more integrated are the economies of the trade partners (see for discussion e.g. Borkakoti 1998). For the Grubel-Lloyd index $(GL)^2$ we use the original approach (Grubel & Lloyd 1975). The index enables to measure the ratio of matching (overlapping) trade flows (numerator) in the total trade (denominator) with each trade partner:

$$(7) \quad GL_n = \frac{(X_n + M_n) - |X_n - M_n|}{X_n + M_n},$$

where X denotes exports and M imports of each product category n traded. Complete intra-industry trade can be concluded, if GL=1 and complete inter-industry is measured, if GL=0. If there is some overlapping of exports and imports (existence of two-way trade flows), the value of index remains within the range of 0...1. The GL-index is calculated for each product group for each trade partner. For calculating the total GL index across all product groups for each trade partner, GL indices are summed after weighting each GL_n by the share of trade of product group n in the total trade with the respective trade partner:

$$(8) \quad GL_i = \sum_{n=1}^{N} \left(\frac{X_n + M_n}{X_i + M_i} * GL_n \right), n = 1....N.$$

Gravity model is explicitly multiplicative in form. Therefore, we estimate the model described in previous equations in a logarithmic way with pooled regression across countries i and years t. The data availability limitations restrict our estimation period to 1990 to 2003; we use annual merchandise trade data available from the National Statistical Office of Bolivia. We use data of 30 trade partners, excluding countries with low trade intensity with Bolivia. In order to capture the trade effects arising from heterogeneous products we exclude the trade in natural resources.

For immigration we have census population data for Bolivia for 1992 and 2001 from national statistics, which includes the nationality structure of population. In addition, we have data on people entering and leaving the country by nationality for 2002 and 2003 from the national statistical office. Based on the arrival data of 2002 and 2003 we calculate the annual immigrant stocks for the years 1990 and 1991, 1993 to 2000 and 2002 to 2003, that is, for the years when there was no census data. In calculations of immigrant stocks we follow the approach of the attrition coefficient applied in Head and Ries (1998).

For emigration we have census population data for the population born in Latin America and Caribbean by the country of residence according to the country of birth, covering twenty countries, provided by the Economic Commission for Latin American and Caribbean program of Latin American International Migration. The census years vary across countries; for some countries data are available only until 1996. For the emigration variable we also use the data on people entering and leaving the country by nationality for 2002 and 2003 and the approach of attrition coefficient to calculate stocks of Bolivians in Latin American and Caribbean countries and in the US and Canada for each year in 1990 to 2003.

To calculate the G-L indices, we use trade data across seven-digit product group codes, amounting to 18,745 possible product groups for each country. However, the number of product groups traded varies remarkably across years. The number of product groups exported is much smaller than that of product groups imported, automatically reducing the possibilities for intra-industry trade (trade overlap, two-way trade).

Instead of the actual consumer price index often added to gravity equations, we use the ratio of consumer price index in trading partner to consumer price index in Bolivia, denoted with the acronym *CPIM*. Using the ratio, we can control for the impact of depreciation of national currency.

We expect the trade flows to be positively influenced by the migration flows. We assume one of the essential factors of driving the foreign trade to be the differences of the product range available in the different countries. To follow the consumption preferences formed in the country of origin, migrants tend to look for the import possibilities from their home country. Intensions to export from the host country to the home country are expected to be somewhat weaker as the exported goods need to be introduced first in the migrants' home country. Therefore the impact of migration on the exports of the host country is expected to be smaller compared to the impact on imports.

5 Estimation results

Comparing regression results across three different specifications of models, it is necessary to denote different samples included in estimations. The samples are different due to the availability of data for emigrants.

Pooled data estimation of the models explained above gives results broadly in line with expectations. Control variables, GDP, distance and adjacency measures are statistically significant and with expected direction of impact (sign of coefficient; except for the adjacency variable in the intra-industry model with the emigration variable) (see table 1).

The estimated coefficients of GDP vary relatively much ranging from lower coefficients in the intra-industry models (0.008 and 0.012) to 1.923 in the exports model with the immigration variable. Interestingly, the impact of the size of the economy of the trade partners affects more exports than imports. As expected, distance reduces trade and adjacency increases trade (for adjacency not confirmed by the intra-industry model with the emigration variable). Somewhat surprisingly, the distance of a trade partner has a bigger effect on exports than on imports.

The effect of the depreciation variable *CPIM* is statistically significant in all models but has somewhat unexpected direction. According to the estimation results, the depreciation of a national currency would raise exports, but surprisingly it would have the same effect on imports.

Concerning the main focus of the paper some surprising facts have been found. The coefficients of all migration variables, both emigration and immigration, are positive, indicating the increasing effect of both types of migration on foreign trade. According to the estimation results, both migration variables (emigration and immigration) have a statistically significant increasing effect on all types of trade observed: exports, imports and intra-industry trade.

Table 1 *Gravity equation estimates*

Explanatory variables	Number of the model estimated with the respective endogenous variable					
	(1) EXP	**(2) IMP**	**(3) EXP**	**(4) IMP**	**(5) GL**	**(6) GL**
Constant	35.713***	16.544***	37.702***	18.814***	0.187*	0.140***
	(2.957)	*(2.349)*	*(2.942)*	*(2.300)*	*(0.108)*	*(0.037)*
GDP	1.923***	1.386***	1.644***	0.112***	0.012**	0.008***
	(0.088)	*(0.070)*	*(0.143)*	*(0.102)*	*(0.005)*	*(0.002)*
CPIM	-0.514***	-0.425***	-0.471***	-0.376***	-0.010*	-0.009**
	(0.156)	*(0.124)*	*(0.154)*	*(0.121)*	*(0.006)*	*(0.004)*
DIST	-6.610***	-3.001***	-6.423***	-2.779***	-0.045***	-0.164***
	(0.452)	*(0.144)*	*(0.454)*	*(0.356)*	*(0.017)*	*(0.033)*
ADJ	-4.598***	-0.839**	-4.997***	-1.309***	0.034*	-0.032***
	(0.504)	*(0.400)*	*(0.526)*	*(0.411)*	*(0.019)*	*(0.005)*
IMMI	0.083***	0.089*				0.006***
	(0.024)	*(0.049)*				*(0.002)*
EMI			0.030***	0.035***	0.037**	
			(0.118)	*(0.009)*	*(0.019)*	
R2	0.756	0.773	0.762	0.785		
No. of observations	192	192	192	192	192	360

Note: significant at (*) 10 per cent (**) 5 per cent (***) 1 per cent, standard deviations in brackets

Elasticities of immigration show that a 10 per cent increase in the stock of immigrants would increase both imports and exports by about 0.8 to 0.9 per cent (models 1 and 2). Immigrant knowledge lowering transactions costs has an almost equal effect on imports and exports. The result that the elasticity of imports is higher than that of exports is consistent with the theory and the empirical evidence since the knowledge of the home market may serve increasing both imports and exports, but preferences for home-country goods increases only imports. Comparing these results with the ones presented in developed countries like Canada, we see that in Bolivia the exports elasticity of immigration is nearly similar (in Canada 1 per cent) while imports elasticity is much higher in developed countries.

Numerical results of the elasticities of emigration again show a relatively equal impact on exports and imports, but the values of coefficients are somewhat lower, indicating that a 10 per cent increase in the stock of emigrants in a respective country would increase both imports and exports with that country by about 0.30 per cent (models 3 and 4). Also, similarly to immigration results, emigration has a slightly bigger effect on imports somehow showing the home bias that exists in the

consumption of goods. It can be expected that the emigrants have a bigger impact on net trade.

We could conclude that both immigration and emigration support trade flows. We cannot draw conclusions based on the comparison of numerical values of elasticities of immigrants and emigrants, as the coefficient values can be affected by sample size differences. We could still argue that the impact of immigration may be bigger, due to the fact that most Bolivian emigrants are less-qualified people and their possibilities of trade creation are reduced since they move to other countries to earn and save money, whereas the immigrants in Bolivia are generally more qualified people with capital, which increases the possibilities of trade creation. This can be also seen in the value the exports elasticity of immigrants, which is almost the same as for developed countries with a higher share of immigrants.

Regarding intra-industry trade (models 5 and 6) we can also conclude that both emigration and immigration increase intra-industry trade as they support the overall trade development. The impact of emigration is estimated to be of comparable size with the impact on the overall exports and imports while the impact of immigration is much lower. This opposite result compared to the impact on overall exports and imports and needs to be analysed further.

6 Conclusions

While the impact of migration on trade in developing countries has not been analysed previously the current estimation results confirm the existence of statistically significant positive effect of both immigration and emigration on trade flows in a relatively closed economy of Bolivia. In comparison to developed countries, migration can have a weaker effect on a country going through extensive structural changes that is also evident from the estimation results. Bolivia is one of the poorest countries in Latin America and the Caribbean, but it has witnessed an increase in its exports during the last ten years that has been favoured by trade agreements signed by the country and discoveries of important resources. The data show an increase in the number of immigrants in Bolivia; most of them are qualified people who try to make business and take advantage of the potentialities of the country, which encourages the increase of bilateral trade. Flows of emigrants have increased, too.

For the estimation of the impact of migration on trade we use gravity models following the approach of previous studies in the field. Supporting the hypothesis raised, migration has a significant positive impact on Bolivian bilateral trade, both in terms of exports and imports

and by immigration and emigration. The estimated coefficients indicate that a 10 per cent increase of immigrants leads to 0.8 to 0.9 per cent increase in imports and exports, which is similar compared to the results obtained in previous studies, for example for Canada. For the emigration effect we get smaller magnitudes.

We also tested the impact of migration on intra-industry trade. The results also showed a positive effect, though in a smaller magnitude in the case of immigration. The results are compatible with the economic content as intra-industry trade usually develops after traditional trade relations are exploited. Therefore, first the overall trade needs to increase after which intra-industry trade starts to grow more significantly.

Taking into account the differences in development and in the size of migration population between Canada and Bolivia, it is important to point out that in both countries the effect of migration on exports is similar. This has policy implications, as the effect of immigration in Bolivia has a positive effect on trade, especially supporting the exports of commodities increasing the revenues for the country and therefore also the GDP. Unfortunately, due to social and political problems this potential is not being exploited sufficiently in Bolivia. Security policy and the advantages of immigrants would help to increase trade with a special impact on exports since the differences between the impacts on exports and imports are negligible.

The next steps of the research include the inclusion of more trade partners in the sample, the inclusion of dummy variables for trade agreements to control for trade creation and trade diversion in trade patterns. Additionally, we intend to test the potential impact of migration by commodity groups and countries.

Appendix 1 Previous studies on trade and migration linkages

Authors	Sample and period	Additional complexities of interest	Export elasticity	Import elasticity
Gould (1994)	US and 47 partners, 1970–86	Differentiated products	0.02	0.01
Head & Ries (1998)	Canada and 136 partners, 1980–92	Canadian immigration policy – i.e. immigrant heterogeneity	0.10	0.31
Dunlevy & Hutchinson (1999, 2001)	US and 17 partners, 1870–1910	Differentiated products	0.08	0.29
Girma & Yu (2002)	UK and 48 partners, 1981–93	Individual vs. non-individual effects	0.16	0.10
Combes et al. (2003)	95 French Provinces, 1993	Intra- i.e. separate provinces	0.25	0.14
Rauch & Trindade (2002)*	63 countries, 1980, 1990	Business networks, differentiated and homogenous products	0.47	0.47
Wagner et al. (2002)**	5 Canadian provinces, & 160 partners, 1992–95	Common language and random encounter specification	0.16	0.41
Parsons (2005)	EU-15 & 15 EU-expansion countries, 1994–2001	none	0.12	0.14

Source: Wagner et al. (2002) and Parsons (2005)
* Estimation with differentiated products. **Estimation without fixed effects

Appendix 2 Acronyms and data used in estimations

Acronym	Data	Unit	Source
EXP	Exports from Bolivia to country *i*	National currency	National Statistical Office
IMP	Imports from country *i* to Bolivia	National currency	National Statistical Office
GDP	GDP of country *i*	Ppp$	World Development Indicators (World Bank)
DIST	Distance from capital of Bolivia to the capital of country *i*	Km	CEPII
IMMI	Migrants from country *i* to Bolivia	Person	National Statistical Office
EMI	Migrants from Bolivia to country *i*	Person	National Statistical Office
ADJ	Dummy variable for adjacency of country *i*; *ADJ*=1, if the country *i* is adjacent to Bolivia and *ADJ*=0 otherwise		Authors
CPIM	Ratio of a consumer price index for country *i* to consumer price index of Bolivia $CPIM=CPI_i/CPI_{bol}$	Index	World Development Indicators (World Bank)

Notes

1 See e.g. McCallum (1995) who finds higher trade between Canadian provinces compared to equally distant states in the US.
2 The Grubel-Lloyd index indicates how similar bilateral trade flows are between two countries. The higher the value of the index (range 0..1), the more integrated are the two economies in terms of similar exports and import flows.

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